

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)	
)	
Resilient Networks)	PS Docket No. 21-346
)	
Amendments to Part 4 of the Commission’s Rules)	PS Docket No. 15-80
Concerning Disruptions to Communications)	
)	
New Part 4 of the Commission’s Rules Concerning)	ET Docket No. 04-35
Disruptions to Communications)	

REPORT AND ORDER AND FURTHER NOTICE OF PROPOSED RULEMAKING

Adopted: June 27, 2022

Released: July 6, 2022

Comment Date: (30 days after date of publication in the Federal Register)

Reply Comment Date: (60 days after date of publication in the Federal Register)

By the Commission:

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I. INTRODUCTION

1. With this Report and Order and Further Notice of Proposed Rulemaking, the Commission takes prompt and decisive measures to improve the reliability and resiliency of mobile wireless networks that are a significant lifeline for those in need during disasters and other emergencies. As the Commission noted when it launched this proceeding last year, recent events including Hurricane Ida, earthquakes in Puerto Rico, severe winter storms in Texas, and hurricane and wildfire seasons continue to demonstrate how the United States' communications infrastructure remains susceptible to disruption during disaster events.¹ The need to strengthen the nation's networks has been further underscored since that time in the face of on-going wildfires in New Mexico and other western states and the forecast that 2022 will bring another historically active hurricane season.²

2. Against this backdrop, we leverage the industry-developed Wireless Network Resiliency Cooperative Framework (Framework) as a starting point for introducing today's Mandatory Disaster Response Initiative (MDRI) and, in doing so, renew our efforts to ensure that the nation's communications networks are more available in the midst of disasters and other emergencies.³ The MDRI leverages and builds upon the Framework's foundation, including lessons learned over the years of its implementation, and delivers strong tools to promote public safety in times of disaster and will ensure more seamless and effective roaming in disaster situations.

3. In the Report & Order, we introduce the MDRI, which largely codifies the Framework's five substantive provisions as mandatory,⁴ extends the reach of the provisions to all facilities-based

¹ *Resilient Networks; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket Nos. 21-346, 15-80, ET Docket No. 04-35, Notice of Proposed Rulemaking, FCC 21-99 (2021) (*Resilient Networks Notice*) (addressing steps to improve the reliability and resiliency of communications networks during emergencies).

² E.g., National Oceanic and Atmospheric Administration (NOAA), *NOAA predicts above-normal 2022 Atlantic Hurricane Season* (May 24, 2022) <https://www.noaa.gov/news-release/noaa-predicts-above-normal-2022-atlantic-hurricane-season> (predicting above-average hurricane activity for 2022, which would be the seventh consecutive year of above-average activity).

³ See generally *Improving the Resiliency of Mobile Wireless Communications Networks; Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket No. 13-239 (terminated), PS Docket No. 11-60, Order, FCC 16-173 (December 14, 2016) (*Framework Order*); see also Federal Communications Commission, *Wireless Resiliency Cooperative Framework* (May 16, 2022) <https://www.fcc.gov/wireless-resiliency-cooperative-framework>. See CTIA—The Wireless Association, Comments, PS Docket No. 13-239, PS Docket No. 11-60 (rec. January 17, 2014); see also CTIA, Reply Comments, PS Docket No. 13-239, PS Docket No. 11-60 (rec. February 18, 2014); see also Brian M. Josef, Assistant Vice President, Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, David Simpson, Lisa Fowlkes, Jeffrey Goldthorp, Lauren Kravetz, Renee Roland, Mike Saperstein, Eric Schmidt, PS Docket Nos. 13-239 and 11-60 (filed February 12, 2015) (CTIA 2015 *ex parte*); see also Scott Bergmann, CTIA, Joan Marsh, AT&T Services, Inc., Charles McKee, Sprint, Steve Sharkey, T-Mobile USA, Grant Spellmeyer, US Cellular, William H. Johnson, Verizon, PS Dockets No. 13-239 and 11-60 (filed April 27, 2016) (*ex parte* presentation, Improving Resiliency, Reliability and Continuity of Mobile Wireless Communications Networks) (introduces the five prongs of the voluntary wireless framework “to enhance coordination”); see also Brian M. Josef, Assistant Vice President, Regulatory Affairs, CTIA, PS Dockets No. 13-239 and 11-60 (filed December 13, 2016) (*ex parte* presentation “to provide additional clarification of the Framework”).

⁴ These provisions of the Framework are: (1) providing for reasonable roaming under disaster arrangements (RuDs) when technically feasible; (2) fostering mutual aid among wireless providers during emergencies; (3) enhancing municipal preparedness and restoration by convening with local government public safety representatives to develop best practices, and establishing a provider/PSAP contact database; (4) increasing consumer readiness and preparation through development and dissemination with consumer groups of a Consumer Readiness Checklist; and (5) improving public awareness and stakeholder communications on service and restoration status, through Commission posting of data on cell site outages on an aggregated, county-by-county basis in the relevant area through its Disaster Information Reporting System.

mobile wireless providers, expands the real-world criteria that trigger activation of the MDRI and introduces new provisions requiring providers to test their roaming capabilities and report on the performance of their implementation of the MDRI to the Commission after disaster events. In the accompanying Further Notice of Proposed Rulemaking (FNPRM), we examine whether and how today's new reporting requirement can be standardized to ensure that the Commission obtains vital and actionable information on the performance of providers' implementation of the MDRI in the aftermath of exigency, while also minimizing associated burdens.

4. The action we take today breaks new ground in ways that will further improve the resiliency of our communications networks in response to the record received on the *Resilient Networks Notice* and in light of the need to achieve near-term benefits in anticipation of future disaster events. At the same time, much remains to be done to ensure that our communications networks achieve their full potential as critical lifelines for those in need during times of emergency. We will thus continue to examine the broader record on resiliency matters. We will rely on that record as well as our observations of real-world network performance around hurricane seasons and disaster events to take further action as warranted.

II. BACKGROUND

5. As recited in the *Resilient Networks Notice*, the Framework is a voluntary agreement among a limited group of facilities-based mobile wireless service providers.⁵ This agreement, which the Commission endorsed in lieu of a mandatory regulatory regime at the time,⁶ commits its participants to a five-pronged approach to enhance coordination during an emergency by (1) providing for reasonable roaming under disaster arrangements (RuDs) when technically feasible; (2) fostering mutual aid among wireless providers during emergencies; (3) enhancing municipal preparedness and restoration by convening with local government public safety representatives to develop best practices, and establishing a provider/PSAP contact database; (4) increasing consumer readiness and preparation through development and dissemination with consumer groups of a Consumer Readiness Checklist; and (5) improving public awareness and stakeholder communications on service and restoration status, through Commission posting of data on cell site outages on an aggregated, county-by-county basis in the relevant area through its Disaster Information Reporting System (DIRS).⁷

6. Providers have often taken a flexible scenario-by-scenario approach to implementing certain provisions of the Framework based on what is reasonable during a specific emergency situation. For example, with respect to fostering mutual aid among wireless providers during emergencies, commenters have noted that agreements among providers that address the sharing of physical assets, such as fuel generators, deployable mobile assets (e.g., Cells on Wheels (COWs), Cells on Light Truck (COLTs)), and further noted that temporary allocation of personnel may be relevant.⁸ With respect to enhancing municipal preparedness and restoration, commenters have suggested that engaging in pre-planning coordination in forecasted disaster-affected areas may be relevant.⁹ With respect to increasing consumer readiness and preparation, commenters have suggested that conducting local training, including

⁵ See *Resilient Networks Notice* at 1-2, paras. 2-3; see also *Framework Order* at 1-4, paras. 1-6 (addressing resiliency of the mobile industry's communications infrastructure).

⁶ See *Framework Order* at 5, para. 11.

⁷ *Framework Order* at 3. See also Federal Communications Commission, Disaster Information Reporting System (DIRS), (Aug. 23, 2021), <https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0>.

⁸ See AT&T Services, Inc. Comments, PS Docket Nos. 21-346 and 15-80, at 15-16 (rec. Dec. 16, 2021) (AT&T Comments).

⁹ See AT&T Comments at 12-13.

by fostering the creation of emergency plans, in conjunction with consumers may be relevant.¹⁰ With respect to improving public awareness and stakeholder communications on service and restoration status, commenters have suggested that holding community meetings prior to a disaster to elicit input from all affected groups in conjunction with emergency agencies and local governments may be relevant.¹¹

7. Under the Framework, RuDs may be invoked “where: (i) a requesting [provider’s] network has become inoperable and the requesting [provider] has taken all appropriate steps to attempt to restore its own network, and (ii) the home [provider] has determined that roaming is technically feasible and will not adversely affect service to the home [provider’s] own subscribers,” and that “[s]uch arrangements will be limited in duration and contingent on the requesting [provider] taking all possible steps to restore service on its own network as quickly as possible.”¹² The Framework is activated in response to an emergency when both the Federal Emergency Management Agency (FEMA) activates Emergency Support Function-2 (ESF-2) and the Commission activates DIRS.¹³ As of 2022, there are seven signatories to the Framework: AT&T Mobility, CTIA, GCI, Southern Linc, T-Mobile,¹⁴ U.S. Cellular, and Verizon Wireless.¹⁵ The Competitive Carriers Association (CCA) filed a letter of its support for the Framework and, in 2017, CTIA released a set of best practices for enhancing emergency and disaster preparedness and restoration as part of its commitment to the Framework.¹⁶

8. The *Resilient Networks Notice* sought comment on a variety of the Framework’s components, noting that, the Framework had provided several benefits to disaster preparedness efforts, but the Framework’s coverage and participation has the potential for expansion in membership, activation, and implementation.¹⁷ Among other issues, the *Resilient Networks Notice* sought comment on the appropriate triggers for the Framework and the scope of the Framework’s participants (including expansion of the Framework to smaller wireless providers).¹⁸ Each prong of the Framework was also examined for the means to improve or expand its utility and application.¹⁹ Beyond the terms of the

¹⁰ See California Public Utilities Commission Reply at 9 (rec. Jan. 14, 2022) (CPUC Comments); see also Center for Advanced Communications Policy Reply at 5 (rec. Jan. 13, 2022) (discussing recent FEMA survey)(CACP Reply).

¹¹ See Telecommunications for the Deaf and Hard of Hearing, Inc. et al Comments at 3 (rec. Dec. 16, 2021)(TDI Comments).

¹² *Framework Order* at 3, para. 6.

¹³ ESFs provide the structure for coordinating federal interagency support for a federal response to an incident. ESF-2 coordinates federal actions to assist industry in restoring the public communications infrastructure and to assist state, tribal, and local governments with emergency communications and restoration of public safety communications systems and first responder networks. See U.S. Department of Homeland Security, *Emergency Support Function #2 - Communications Annex (2008)*, (Jan. 2008) <https://www.fema.gov/pdf/emergency/nrf/nrf-esf-02.pdf>; see also *Framework Order* at 3, para. 6.

¹⁴ Sprint was also a signatory of the Wireless Network Resiliency Cooperative Framework before it merged with T-Mobile.

¹⁵ See Federal Communications Commission, *Wireless Resiliency Cooperative Framework*, (May 10, 2022) <https://www.fcc.gov/wireless-resiliency-cooperative-framework>.

¹⁶ *Id.*; see also *Framework Order* at 1, n.1; *Improving the Resiliency of Mobile Wireless Communications Networks; Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket Nos. 13-239 and 11-60, Notice of Proposed Rulemaking, 28 FCC Rcd 14373, 14374, para. 3 (2013) (Notice); The Cellular Telecommunications and Internet Association (CTIA), *Wireless Network Resiliency Cooperative Framework Best Practices for Enhancing Emergency and Disaster Preparedness and Restoration*, (Aug. 30, 2021), <https://www.ctia.org/the-wireless-industry/industry-commitments/wireless-network-resiliency-cooperative-framework> (CTIA Best Practices).

¹⁷ *Resilient Networks Notice* at 7, paras. 13-14.

¹⁸ *Id.* at 7-8, paras. 15-16.

¹⁹ *Id.* at 9-11, paras. 19-23.

Framework itself, the Commission sought input on whether wireless providers should be required to perform testing of their roaming capabilities and related coordination processes, submit reports to the Commission regarding how the Framework had been implemented during a disaster and on whether despite the merits of its history during disasters now, the Framework would be more effective if some or all of its obligations were codified as mandatory.²⁰

9. In response to the *Resilient Networks Notice*, we received forty-two comments and eighteen reply comments.²¹ The record reflects a wide range of feedback from wireless service providers, utility and equipment providers, broadcasters, public safety entities, public interest groups, consumer groups, trade associations, emergency responders and individuals in the communications industry.²² These views inform our decisions below.

III. REPORT AND ORDER

10. This Report and Order requires that all facilities-based mobile wireless providers, including each such signatory to the Framework, comply with today's MDRI.²³ As explained below, we find that the incremental costs imposed on facilities-based mobile wireless providers by these new requirements will be minimal in many cases and, even when significant, will be far outweighed by the nationwide benefits.

A. Mandating the Framework

11. The *Resilient Networks Notice* sought comment on whether providers should be required to implement the Framework's provisions and, if so, which providers should be subject to the requirements.²⁴ We require that all facilities-based mobile wireless providers comply with today's MDRI, which, among other elements, codifies the Framework's existing provisions.²⁵

²⁰ *Resilient Networks Notice* at 11-12, paras. 25-26.

²¹ We grant the California Public Utilities Commission's Motion to Accept Late Filed Comments (CPUC Motion). See Motion to Accept Late Filed Comments for Resilient Networks, *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications, New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Dockets Nos. 21-346 and 15-80, ET Docket No. 04-35, at 1-2 (filed Dec. 24, 2021) (CPUC Motion). The comments associated with the CPUC Motion were filed timely in PS Docket No. 15-80 and ET Docket No. 04-35, but filed late in PS Docket Nos. 21-346, the third docket associated with this proceeding. In granting the CPUC Motion, we find minimal prejudice, if any, to accepting CPUC's late filing given that the CPUC Motion was unopposed, CPUC's timely filing in two of the three dockets of this proceeding, and because the late filing occurred during the comment phase, i.e., rather than a later phase of the proceeding that would have left potential responding parties with less time to consider and act on the comments.

²² See Appx. D.

²³ See 47 CFR § 20.3 (defining commercial mobile radio service); 47 CFR § 332 (describing mobile services); *Communications Marketplace Report*, 36 FCC Rcd 2945, 2949-50, para. 9 (2020) (describing facilities-based mobile wireless service providers). Today's requirement applies to current signatories of the Framework to the extent they are facilities-based mobile wireless providers. CTIA, for example, is excluded on these grounds.

²⁴ *Resilient Networks Notice* at 7-8, para. 16; see also *id.* at 11-12, para. 26.

²⁵ We defer for later consideration whether some similar construct to today's Mandatory Disaster Response Initiative (MDRI) should be extended to entities outside of facilities-based mobile wireless providers in the manner described in the *Resilient Networks Notice*. Many commenters address the merits and drawbacks of mandating the Framework's provisions for entities beyond the wireless industry, but today's item addresses requirements for facilities-based mobile wireless providers only. Next Century Cities Comment, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 5-6 (rec. Dec. 16, 2021) (NCC Comments); Satellite Industry Association Comments, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 3-4 (rec. Dec. 16, 2021) (SIA Comments); T-Mobile, Inc., PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 12 (rec. Dec. 16, 2021) (T-Mobile Comments); Public Knowledge Comments, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, (rec. Dec. 16, 2021). We also

(continued....)

12. We find it appropriate to apply today's requirement to all facilities-based mobile wireless providers. We recognize the merits of the current Framework and agree with the commenters who argue that its provisions would be more effective if they were expanded to include entities beyond the Framework's current signatories.²⁶ We observe that the existing Framework, which was developed specifically for use in facilities-based mobile wireless networks, would be more effective and valuable if extended to all providers operating those types of networks.

13. We make these requirements mandatory for all facilities-based mobile wireless providers. No commenter took issue with the Commission's authority to require facilities-based mobile wireless providers to implement the Framework. A number of commenters agree that the Framework's requirements should be mandatory for current signatories and other facilities-based mobile wireless providers.²⁷ Our approach today is consistent with Verizon's view that the Framework "could apply to all wireless providers," AT&T's observation that the Framework could be applied to non-Framework signatories who are capable of roaming, and Public Knowledge's view that the Framework should be extended to at least the entire wireless industry.²⁸ The California Public Utilities Commission (CPUC) opines that a mandatory approach would make reporting more effective and consistent, incentivize action from those providers that currently do not undertake Framework-like steps in the aftermath of disasters, create more accountability, and close a disparity in service for customers based on whether their provider follows Framework-like measures or not.²⁹ Public Knowledge believes that by mandating some of the Framework's requirements, including those related to entering into roaming agreements with other providers, the Commission would lower transactional costs faced by small- and medium-size (e.g., regional) providers,³⁰ making their adoption of such requirements more viable. We agree with these comments and find that mandating the Framework's requirements for a broader segment of the wireless industry, as provided by the MDRI we adopt today, will enhance and improve disaster and recovery efforts on the ground in preparation for, during, and in the aftermath of disaster events, including by increasing predictability and streamlining coordination in recovery efforts among providers. We find this to be true even for providers that already implement Framework-like steps. The efforts of all facilities-based mobile wireless service providers will be standardized based on a common set of required actions, thus better informing further Commission actions, enhancing resiliency, and better serving the public – particularly in times of need.

14. We reject the views of commenters who opine that codifying the Framework's requirements (i.e., in today's MDRI) would meaningfully limit the variety of solutions providers may

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defer for later consideration the proposals in the *Resilient Networks Notice* related to promoting situational awareness during disasters and addressing power outages. See *Resilient Networks Notice* at §§ III.B-C.

²⁶ NCC Comments at 5-6.

²⁷ See, e.g., California Public Utilities Commission Reply, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 3-4 (rec. Jan. 14, 2022) (CPUC Reply); Association of Public-Safety Communications Officials-International Comments, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 2 (rec. Dec. 16, 2021) (APCO Comments); Harold Feld, Senior Vice President, Public Knowledge, to Commissioner Nathan Simington, Carolyn Roddy, Attorney Advisor, Erin Boone, Supervisory Attorney Advisor, Adam Cassidy, Legal Advisor, Federal Communications Commission, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 1 (filed Feb. 17, 2022) (Public Knowledge *ex parte*); Communications Workers of America Comment, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 2 (rec. Dec. 16, 2021) (CWA Comments); NCC Comments at 9-10; The National Association of State Utility Consumer Advocates Reply, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 5 (rec. Jan. 14, 2022) (NASUCA Reply).

²⁸ Verizon Comments, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 3 (rec. Dec. 16, 2021); AT&T Comments at 9; Public Knowledge Comments at 6.

²⁹ CPUC Reply at 3-4; see also APCO Comments at 2; NCC Comments at 9-10.

³⁰ Public Knowledge *ex parte* at 1.

implement or investments they may otherwise make in their network restoration and recovery efforts, e.g., due to fears that the efforts would make them non-compliant with today's rules.³¹ Today's rules provide baseline actions and assurances that facilities-based mobile wireless providers will undertake to ensure effective coordination and planning to maintain and restore network connectivity around disasters.³² Nothing in today's rule prevents or disincentivizes a provider from implementing additional measures that exceed the requirements of the MDRI. The record does not identify specific scenarios where taking additional steps beyond those required by the MDRI would make a provider non-compliant with the rules adopted today.³³

15. In making the MDRI mandatory for all facilities-based mobile wireless providers, regardless of their size, we reject the views of the CCA and NTCA—The Rural Broadband Association (NTCA) that smaller providers should be excepted from today's rules because they need to prioritize work on their own networks or lack the resources required for compliance in the midst of emergencies.³⁴ We find that, as a practical matter, such concerns can be mitigated. Each of the Framework's provisions involves significant preparation and coordination steps to be taken well in advance of, rather than in the midst of, an emergency. For example, establishing mutual aid agreements, entering into appropriate contractual agreements related to roaming, enhancing municipal preparedness, increasing consumer readiness and preparing and improving public awareness are steps that can be taken in advance of a disaster. Making these advance preparations would reduce the resources needed to comply with today's requirements during an emergency. Moreover, as NTCA notes, small wireless providers already generally abide by the underlying principles of the Framework.³⁵ Requiring small providers to take certain actions to ensure that their networks remain operational during emergencies will have the effect of streamlining and standardizing those efforts, thus making coordination with other entities, including other providers, more efficient than would be possible absent uniform rules. Indeed, signatories to the Framework now have a commendable eight-year track record demonstrating how the Framework operates and its benefits before, during, and after disaster events, which offers lessons that smaller providers can follow.³⁶ Additionally, the provisions of the MDRI are framed in terms of reasonableness and technical feasibility, which further mitigates these concerns.

16. We note that today's rules will require that providers negotiate roaming agreements, including related testing arrangements, and mutual aid provisions. We require that all such negotiations be conducted in good faith and note that any disputes will be addressed by the Commission on a case-by-

³¹ See, e.g., AT&T Comments at 10; T-Mobile Comments at 10-12; Alliance for Telecommunications Industry Systems Comments, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 5 (rec. Dec. 16, 2021) (ATIS); ATIS Reply, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 3 (rec. Jan 14, 2022) (ATIS Reply); The Cellular Telecommunications and Internet Association Comments, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 7 (rec. Dec. 16, 2021) (CTIA Comments); Competitive Carriers Association Comments, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 7 (rec. Dec. 16, 2021) (CCA Comments).

³² See NCC Comments at 10.

³³ Nevertheless, in the case that a provider desires to implement practices that would improve network resiliency but that, in some way, run counter to the rules we adopt today, a provider may explain these considerations in detail pursuant to the Commission's usual rule waiver procedures. See 47 CFR § 1.3.

³⁴ CCA Comments at 6; NTCA—The Rural Broadband Association, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 4 (Dec. 16, 2021) (NTCA Comments).

³⁵ NTCA Comments at 4.

³⁶ For example, CTIA includes the following among these lessons: uniform terminology throughout the RuD request process, establishing provider connectivity and roaming terms before disasters occur, and the need to conduct "blue skies" exercises with potential roaming partners. See CTIA Comments at 13-15.

case basis.³⁷ We delegate authority to the Enforcement Bureau to investigate and resolve such disputes.³⁸

17. *Roaming Provision of the MDRI.* Today's rule requires that each facilities-based mobile wireless provider enter into bilateral roaming agreements with all other facilities-based mobile wireless providers from which it may foreseeably request roaming privileges, or that may foreseeably request roaming privileges from it, when the MDRI is active.³⁹ We clarify that roaming is foreseeable, without limitation, when two providers' geographic coverage areas overlap. We agree with NTCA that roaming agreements should be bilateral to ensure that roaming is implemented across the nation on equitable terms and that no provider prevents its subscribers from roaming onto the networks of other providers when it would be technically feasible to do so during disasters and emergencies.⁴⁰ We also require that each bilateral roaming agreement be executed and in place no later than the compliance date for the MDRI.⁴¹ This advance planning will allow, for example, time for the providers subject to the agreement to undertake initial testing and confirm that the roaming functionality works as intended and/or take remediation steps to address technical issues prior to the actual onset of a disaster or emergency event, as well as to swiftly implement roaming when the MDRI is triggered. Where a disaster can be reasonably anticipated, such as in the case of a hurricane, this will also permit advance coordination and planning among parties to the RuD. It is our expectation that today's bilateral roaming requirements will increase consumer access to emergency communications services in the direst of circumstances, and to the maximum extent technically feasible, when life and property are at stake.

18. We find strong support in the record for mandating the roaming provision of the Framework in today's MDRI. We agree with APCO that mandatory roaming is critical to ensuring that the public has access to 9-1-1 and other avenues of emergency communications, such as web-based services, that the public may rely upon for important information during an emergency,⁴² and with T-Mobile's general view that roaming should be promptly and broadly available to other providers on request absent extenuating circumstances and that such provisions should be made in anticipation of a disaster rather than only after a disaster has struck.⁴³ Requiring that RuDs be executed prior to disaster provides some assurance that issues can be identified and resolved prior to onset of the actual disaster event, reducing the chance that consumers will lose a life-saving lifeline when it is most needed. We also agree with Public Knowledge that providers located in vulnerable areas with less infrastructure are the least likely to have adequate roaming agreements in place with their neighboring providers absent an appropriate requirement.⁴⁴

19. We find that the roaming provision of the Framework has been sufficiently refined through eight years of implementation to provide a basis for its adoption today. CTIA observes, for example, that "[w]ireless stakeholders have been developing new practices for enhancing the implementation and effectiveness of the Framework's RuD tool based on lessons learned during earlier disaster events."⁴⁵ Further, CTIA offers as lessons learned that parties to roaming agreements should use

³⁷ We note that the Commission addresses roaming matters in other instances case by case based on the totality of the circumstances. *See, e.g.*, 47 CFR § 20.12(d).

³⁸ *See, e.g.*, 47 CFR § 0.111(a)(11); 47 CFR § 0.311(a)(3).

³⁹ *Infra*, Appendix A, 4.17(a)(1).

⁴⁰ NTCA Comments at 7.

⁴¹ *Infra*, § III.E.

⁴² APCO Comments at 3.

⁴³ T-Mobile Reply at 6-7. We decline to adopt at this time T-Mobile's view that roaming should be required without permitting the host provider to perform a capacity evaluation.

⁴⁴ Public Knowledge Comments at 6.

⁴⁵ *See* CTIA Comments at 13-15.

uniform terminology throughout the RuD request process, establish provider connectivity and roaming terms before disasters occur, and conduct “blue skies” exercises with potential roaming partners.⁴⁶ We agree with Verizon that roaming is workable, provided there is sufficient flexibility in the rules to account for a provider’s technical and capacity issues, appropriate testing of capabilities, and safeguards to prevent opportunistic “free riding” roaming from providers who leverage another provider’s more reliable network rather than invest in improving the reliability of their own.⁴⁷ Accordingly, we reject AT&T’s view that requiring roaming would necessarily be counterproductive or impair access to emergency services.⁴⁸

20. The roaming requirement adopted in today’s *Report & Order* requires facilities-based mobile wireless providers to “provide for reasonable roaming under disaster arrangements (RuDs) when technically feasible, where: (i) a requesting provider’s network has become inoperable and the requesting provider has taken all appropriate steps to attempt to restore its own network, and (ii) the provider receiving the request (home provider) has determined that roaming is technically feasible and will not adversely affect service to the home provider’s own subscribers, provided that existing roaming arrangements and call processing methods do not already achieve these objectives and that any new arrangements are limited in duration and contingent on the requesting provider taking all possible steps to restore service on its own network as quickly as possible.”⁴⁹ We note that this industry-developed standard is a flexible one that allows providers to adapt to the particular circumstances that each disaster or exigency presents on a case-by-case basis. For example, what constitutes “reasonable roaming,” “technically feasib[ility]” and “adverse[] affect” will typically depend on facts and realities that cannot be determined universally in advance of a situation that gives rise to a particular MDRI activation. We find it useful, however, to provide clarification and basic guidance that would help providers understand what activities do meet this standard, where appropriate.

21. We clarify that “reasonable roaming” is roaming that does not disturb, but includes compliance with, the Commission’s existing requirements that voice roaming arrangements be just, reasonable, and non-discriminatory, and that data roaming arrangements be commercially reasonable.⁵⁰ We further clarify that “technically feasible” roaming for purposes of the Commission’s disaster roaming rules requires a host provider to permit a requesting provider’s customers to roam on the host provider’s network on all compatible generations of network technology that it offers to its own customers. We note that requiring that a host provider support roaming regardless of network generation will contribute meaningfully to the Commission’s objective of increasing consumer access to emergency communications services in the direst of circumstances, when life and property are at stake. Moreover,

⁴⁶ *Id.*

⁴⁷ Verizon Comments at 3, 9-11.

⁴⁸ AT&T Comments at 7, note 8; *Id.* at 10-12, note 16.

⁴⁹ *Infra* at Appendix A.

⁵⁰ See *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers*, WT Docket No. 05-265, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 15817, 15818, para. 1 (2007) (requiring CMRS carriers to provide voice “services to other carriers upon reasonable request and on a just, reasonable, and non-discriminatory basis”); *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Service*, WT Docket No. 05-265, Order on Reconsideration and Second Further Notice of Proposed Rulemaking, 25 FCC Rcd 4181, 4186, para. 11 (2010) (eliminating the home roaming exclusion for voice roaming); *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, WT Docket No. 05-265, Second Report and Order, 26 FCC Rcd 5411, 5418, para. 13 (2011) (requiring “facilities-based providers of commercial mobile data services offer data roaming arrangements to other such providers on commercially reasonable terms and conditions,” subject to certain limitations); *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, WT Docket No. 05-265, Declaratory Ruling, 29 FCC Rcd 15483, 15490, para. 20 (WTB 2014) (providing further guidance on the commercially reasonable terms and conditions standard).

we find this would provide some measure of technological neutrality, as well account for the often-rapid evolution of wireless technology.

22. We also clarify that “reasonable roaming” would include providing a means of denying a roaming request in writing to the requesting provider, preferably with the specific reasons why roaming is infeasible. We believe that this approach would allow the requesting provider to evaluate the substance of the reasons so that it can make a renewed request at an appropriate time later, if warranted, and will create accountability on the part of requesting providers to ensure that denials are only issued when the circumstances truly warrant. Moreover, this approach, while optional, could help to provide insight into modifications that would facilitate a future roaming agreement or create a record in the event a dispute arises.

23. By way of example, we further clarify that an RuD that specifies that a provider may make a network health assessment within four hours post-disaster and activate its roaming functionality within three hours of completing the health assessment would generally be considered reasonable.⁵¹ In this respect, we agree with AT&T on the practicality of these time frames as best practices and note that appropriate time frames may depend on a specific scenarios and circumstances involved.

24. We find that the Commission could effectively ensure accountability on the part of providers and their compliance with today’s roaming provision, and could do so at minimal cost to providers, if the Commission had the ability to request copies of a provider’s bilateral roaming agreements. We thus require that a provider retain RuDs for a period of at least one year after their expiration and supply copies of such agreements to the Commission promptly upon Commission request.⁵²

25. *Mutual Aid Provision of the MDRI.* Today’s rule requires that each facilities-based mobile wireless provider enter into mutual aid arrangements with all other facilities-based mobile wireless providers from which it may request, or receive a request for aid during emergencies. Providers must have mutual aid arrangements in place within 30 days of the compliance date of the MDRI.⁵³ Today’s rule also requires providers to commit to engaging in necessary consultation where feasible during and after disasters, provided that the provider supplying the aid has reasonably first managed its own network needs.⁵⁴ We find that requiring providers to coordinate and collaborate (e.g., to determine ways in which excess equipment from one provider can be shared or exchanged with the other) has been successful during past disasters and serves the public interest during times of emergency. We find that, without this provision in place, providers are less likely to fully engage in such actions,⁵⁵ particularly among providers that do not regularly collaborate on other matters (e.g., between a large nationwide provider and smaller, rural provider). In arriving at this rule, we note and commend some of the nation’s largest providers who already engage in this coordination on some level among themselves, and we believe that the public interest would greatly benefit from such commitments being extended to all facilities-based mobile wireless providers.⁵⁶

26. Today’s MDRI mutual aid requirement is a codification of the flexible standard already developed by industry in proposing its successful Framework. As such, AT&T’s concern that this rule would require a provider to grant mutual aid regardless of its own circumstances and ATIS’s concern that

⁵¹ AT&T Comments at 13-14.

⁵² If appropriate, such agreements may be submitted with a request for confidential treatment under Section 0.459 of the Commission’s rules. 47 CFR § 0.459.

⁵³ *Infra*, § III.E.

⁵⁴ *Infra*, Appendix A, 4.17(b).

⁵⁵ See ATIS Reply at 4.

⁵⁶ See Verizon Comments at 14.

this provision would require a provider to work to restore a competitor's network before its own are unfounded.⁵⁷ Rather, as indicated by the plain language of today's rule, a provider's obligations apply only if it has "reasonably first managed its own network needs."⁵⁸ Similarly, because a provider supplying aid under this provision would only do so after it has managed its own needs, we find USTelecom's concerns that this provision would create disincentives for a requesting provider to invest in its own resiliency and restoration capabilities are countered by the language of the rule itself, and further mitigated by the flexibility that the rules afford providers in coming to a reasonable mutual agreement.⁵⁹ We similarly clarify that nothing in today's rule requires that providers share their limited fuel or other equipment when they do not have enough of these resources to reasonably service their own subscribers' needs first.⁶⁰

27. *Other Provisions of the MDRI That Correspond to Framework Elements.* Several other provisions of today's MDRI track corresponding elements of the existing Framework and require that each facilities-based mobile wireless provider take reasonable measures to: 1) work to enhance municipal preparedness and restoration, 2) increase consumer readiness and preparation, and 3) improve public awareness and stakeholder communications on service and restoration status.⁶¹ We find that each of these provisions would enhance public safety objectives by tracking the elements of the Framework. We find that these actions, taken individually and as a whole, would provide significant public safety benefits by reducing the costs borne by both wireless providers and public safety entities in responding to and recovering from a disaster and by creating information that can be used by public officials, including first responders, to enable more effective and efficient responses in an emergency.⁶² We find that the MDRI, as a codification of successful provisions already implemented by the nationwide and certain regional providers to date, allows the needed flexibility to respond to the individual needs of providers and the communities they serve.

28. *Safe Harbor.* We find it in the public interest to supply clarity and assurance that providers have complied with as many of the MDRI's provisions as practical if they implement, or continue their implementation of, corresponding elements of the Framework. Accordingly, a provider that files a letter in the dockets associated with this proceeding truthfully and accurately asserting, pursuant to section 1.16 of the Commission's rules,⁶³ that it complies with the Framework's existing provisions, and has implemented internal procedures to ensure that it remains in compliance with these provisions, for (i) fostering mutual aid among wireless providers during emergencies, (ii) enhancing municipal preparedness and restoration by convening with local government public safety representatives to develop best practices, and establishing a provider/PSAP contact database, (iii) increasing consumer readiness and preparation through development and dissemination with consumer groups of a Consumer Readiness Checklist and (iv) improving public awareness and stakeholder communications on service and

⁵⁷ ATIS Reply at 4.

⁵⁸ *Infra*, Appendix A, 4.17(b).

⁵⁹ USTelecom—The Broadband Association Comments, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35 at 5 (rec. Dec. 16, 2021) (USTelecom Comments).

⁶⁰ *See* Verizon Comments at 8.

⁶¹ *Infra*, Appx. A, 4.17(c)-(e). The Commission declines to address at this time a provision similar to the existing Framework's provision that a provider establish a provider/PSAP contact database. The Commission is currently examining these issues in its pending 911 Reliability proceeding. *See Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80, Third Notice of Proposed Rulemaking, FCC 21-45 (Apr. 23, 2021); *see also Third Notice of Proposed Rulemaking to Improve 911 Reliability*, 15-80, 13-75, 04-35, 36 FCC Rcd 7860 (11), Public Safety and Homeland Security Bureau, 2021 (*911 Reliability Notice*).

⁶² *See Framework Order* (FCC 16-173) at paras. 14, 17.

⁶³ 47 CFR § 1.16.

restoration status, through Commission posting of data on cell site outages on an aggregated, county-by-county basis in the relevant area through its DIRS will be presumed to have complied with today's MDRI counterpart provisions at sections 4.17(a)(2)-(5).⁶⁴ We clarify that providers that rely on this safe harbor provision are representing adherence to these elements of the Framework as it was laid out and endorsed by the Commission in October 2016.⁶⁵

29. Given today's new requirements related to testing roaming, however, we do not extend this "safe harbor" mechanism to today's rules requiring that providers implement bilateral roaming arrangements (4.17(a)(1)), test their roaming functionality (4.17(b)), provide reports to the Commission (4.17(c)) or retain copied of RuDs (4.17(d)).⁶⁶ These four provisions cover important aspects of the Framework related to roaming (among other functionality), where there is some evidence that the existing Framework has not performed as strongly as possible or else new requirements that have no counterpart in the existing Framework.

B. Implementing New Testing and Reporting Requirements

30. In the *Resilient Networks Notice*, we sought comment on whether each provider should be required to implement annual testing of their roaming capabilities and related coordination processes.⁶⁷ We adopt the requirement that this testing must be performed bilaterally with other providers that may foreseeably roam, or request roaming from, a given provider including, without limitation, between providers whose geographic coverage areas overlap. The first round of such testing, i.e., with respect to all other foreseeable providers, must be performed no later than the compliance date for the roaming provision of the MDRI.⁶⁸

31. We agree with NTCA that providers should regularly test their roaming capabilities and believe that the public interest would be served if providers conducted bilateral roaming capabilities testing with other providers to ensure that roaming will work expeditiously in times of emergencies.⁶⁹ We agree with Verizon that testing in advance of an actual disaster event is necessary for a provider to best understand its network capabilities and ensure that roaming is performed in a way that does not compromise its service to its own customers.⁷⁰ We find that bilateral testing will ensure that providers spend time optimizing, debugging and diagnosing their networks well advance of emergencies, ensuring that these networks roam as effectively as possible when a disaster strikes, ultimately saving lives and property. We find that by requiring the testing to be bilateral, each provider will be incentivized to take affirmative steps to ensure their own network can handle demands indicative of emergency scenarios, diminishing the possibility that such a provider would act as a "free-rider" when disaster strikes.⁷¹

32. In the *Resilient Networks Notice*, we also sought comment on whether providers should submit reports to the Commission, in real time or in the aftermath of a disaster, detailing their implementation of the Framework's provisions and whether the reports should include information on the

⁶⁴ *Framework Order* at 3. See also Federal Communications Commission, Disaster Information Reporting System (DIRS), (Aug. 23, 2021), <https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0>; See *Framework Order* (FCC 16-173) at 3, para. 5.

⁶⁵ See *Framework Order* (FCC 16-173) at 3, para. 5.

⁶⁶ Nor we do extend safe harbor to section 4.17(e), which summarizes an announcement of compliance dates for today's rules.

⁶⁷ *Resilient Networks Notice* at para. 18.

⁶⁸ *Infra*, § III.E

⁶⁹ NTCA Comments at 6-7; see also AT&T Comments at 13-14 (endorsing the use of "mock exercises").

⁷⁰ See Verizon Comments at 11.

⁷¹ *Id.*

manner in which the provider adhered to the various provisions of the Framework.⁷² We adopt this requirement and require that providers submit a report detailing the timing, duration and effectiveness of their implementation of the MDRI's provisions within 60 days of when the Bureau, under delegated authority which we grant today, issues a Public Notice announcing such reports must be filed for providers operating in a given geographic area in the aftermath of a disaster.

33. We agree with Free Press that that it is in the public interest for providers to submit an "after-action" report detailing how their networks fared and whether their pre-disaster response plans adequately prepared for a disaster and with Next Century Cities that requiring providers to submit reports detailing implementation of the Framework's provisions would help the Commission gauge the effectiveness of these provisions and potential future improvements in furtherance of public safety.⁷³

34. We reject the views of Verizon and other commenters who suggest that such reports should be filed only annually.⁷⁴ We find that such reports would be most accurate and useful if they were provided shortly after a disaster event has concluded (i.e., by a date specified in a Bureau issued public notice). We find that such reports should be filed shortly after a disaster event concludes, and not in real time, to avoid consuming public safety resources during times of exigency.

C. Expanding Activation Triggers

35. In the *Resilient Networks Notice*, the Commission recognized circumstances where mutual aid or other support obligations could have been implemented, but were not warranted or provided because the Framework's activation triggers were not met.⁷⁵ The Commission applauded the Framework but sought to expand its reach by working with providers to revisit the conditions that trigger activation of the Framework.⁷⁶ Commenters generally agreed that new triggers for Framework activation are appropriate.⁷⁷ Verizon identified that "[a]uthorizing the Chief of the Public Safety and Homeland Security Bureau to activate the Framework based on ESF-2 or DIRS" could be the right approach.⁷⁸

36. We find that the public interest supports a rule that the MDRI is triggered when either ESF-2 or DIRS is activated, or when the Chief of the Public Safety and Homeland Security Bureau announces that the MDRI is activated in response to a request received from a state in conjunction with the state activating its Emergency Operations Center, activating mutual aid, or proclaiming a local state of emergency. As such, we delegate to the Chief, Public Safety and Homeland Security Bureau the authority to issue a public notice effectuating the MDRI under these circumstances, and to prescribe any mechanisms for receiving such a request.

37. We agree with those commenters who argue that the Framework's current activation criterion, which only applies when both ESF-2 and DIRS are activated, is too narrow.⁷⁹ CTIA and

⁷² *Resilient Networks Notice* at para. 25.

⁷³ Free Press Foundation Reply, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35 at 9 (rec. Jan. 14, 2022) (Free Press Reply); NCC, December 16, 2021 Comments at 8-9.

⁷⁴ Verizon Reply, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35 at 8 (rec. Jan. 14, 2022); Public Knowledge Reply, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35 at 8 (rec. Jan. 14, 2022).

⁷⁵ *Resilient Networks Notice* at para. 15.

⁷⁶ *Id.*

⁷⁷ See Verizon Comments at 5-6; CTIA Comments at 15-16; APCO Comments at 1-2; *but see* AT&T Comments at 8-9 (stating that new Framework triggers are not necessary because the Framework already allows sufficient flexibility to invoke its provisions when needed).

⁷⁸ Verizon Comments at 5-6.

⁷⁹ See APCO Comments at 1-2 "Currently, the Framework only applies when both ESF-2 and DIRS are activated. This is too narrow . . . In determining appropriate triggers for the Framework's various requirements, the Commission should consider the operational needs that exist in the absence of a declared disaster."

Verizon agree that Framework elements could be helpful during events not currently covered by the Framework and are open to considering other activation triggers to help ensure cooperative efforts during disasters impacting communications networks.⁸⁰ Certain events like wildfires are not expressly covered by the Framework and have the potential to occur more frequently than other covered events like hurricanes.⁸¹ Next Century Cities (NCC) explains that DIRS is typically activated before an anticipated major emergency or following an unpredicted disaster but ESF-2 is only activated under specific circumstances when the Department of Homeland Security or FEMA has identified that a significant impact to the nation's communications infrastructure has occurred or is likely to occur.⁸² These two programs differ in activation requirements, meaning that the Framework is not always activated even during critical disaster events and the Commission is not always able to collect vital communications outage data.⁸³ We agree with NCC's and Public Knowledge's recommendation that the Framework would be more effective if it were activated when either DIRS or ESF-2 is activated and if it remained active until the emergency has ceased and network disruption has been resolved.⁸⁴ Further, we agree with Verizon's suggestion that the Chief of the Public Safety and Homeland Security Bureau should be able to activate the Framework based on ESF-2 or DIRS, or when a state experiences events such as FEMA-recognized or declared disasters, events that could affect a significant geographic area, or events that could result in outages for a significant duration and have the potential to impact multiple providers.⁸⁵ Today's activation criteria for the MDRI incorporates these views.

38. We disagree with those commenters, including the CCA and NTCA, who think a codified version of the Framework cannot incorporate remedies and procedures for a variety of differing disasters and emergencies.⁸⁶ We agree that the current Framework offers flexibility to address various challenges brought on by differing disasters in differing locations, and we note that today's MDRI will allow for the same flexibility and offer even more benefits and restorative efforts with a wider range of activation triggers. CTIA argues that the beneficial elements of the Framework outweigh the doubts and points out the Framework's success in advancing wireless resiliency over the past few years.⁸⁷ Recognizing the merits of the Framework and building upon it in today's MDRI will also better incorporate the uniqueness of individual disasters by offering additional circumstances in which the obligations would be triggered.

D. Cost-Benefit Summary

39. In the *Resilient Networks Notice*, the Commission generally sought information on costs and benefits of requiring providers to implement provisions of the Framework, including mandating some

⁸⁰ CTIA Comments at 15-16; Verizon Comments at 3; *see also* Public Knowledge Comments at 7. Public Knowledge and CTIA point out that the current stringent activation requirements prevent consumers from receiving the benefits of the Framework like mutual aid and roaming arrangements because there are many disasters and events would not reach the dual ESF-2/DIRS trigger, such as the recent California power shutoffs and wildfires for which ESF-2 was not activated. CTIA states that they are committed to working with the Commission to consider other objective activation triggers.

⁸¹ Verizon Comments at 6-7.

⁸² NCC Comments 4-5.

⁸³ *Id.*

⁸⁴ Public Knowledge states that "[s]ervice providers should not wait for a federal agency to announce an impending weather disaster before coordinating and taking necessary steps to ensure service continues." Public Knowledge Comments at 7; NCC Comments at 4-5.

⁸⁵ Verizon Comments at 6-7; CTIA Comments at 15-16.

⁸⁶ Competitive Carriers Association Comments, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 6 (rec. Dec. 16, 2021) (CCA Comments); NTCA Comments at 3.

⁸⁷ CTIA Comments at 12.

or all of the Framework, and tentatively concluded that the benefits exceeded the costs for doing so.⁸⁸ We affirm that tentative conclusion as to facilities-based mobile wireless providers.

40. No commenter provides a detailed quantitative analysis of costs or benefits, though some commenters provide qualitative views. For example, Public Knowledge opines that mandating the Framework, particularly the roaming provision of the Framework, would lower transaction costs for smaller providers while also providing benefits to the nation's network resiliency and emergency response.⁸⁹ CPUC notes that the benefits of ensuring heightened network resiliency are likely to increase in the coming years as the number of weather and climate disaster events continues to increase.⁹⁰ On the other hand, AT&T, CCA, and USTelecom, among others, argue that mandating the Framework would create harms, rather than benefits, because it would remove flexibility in providers' disaster recovery approaches and, as a result, would lead to worse public safety outcomes.⁹¹ CCA further argues that some providers, including small providers, may lack the resources necessary to adopt a mandatory regime.⁹² As discussed below, we find that the incremental costs to the nation's facilities-based mobile wireless providers for codifying the Framework in today's MDRI rules will be minimal in many cases and, even when significant, will be far outweighed by nationwide benefits.

41. *Nationwide facilities-based mobile wireless providers and other Framework signatories.* We find that Framework signatories are unlikely to incur significant one-time implementation costs to comply with today's MDRI because they already implement actions aligned with the Framework's steps and, in some cases, take significant additional actions as part of their existing business practices. AT&T, for example, cites multiple examples evidencing that it and other signatories commonly invoke the Framework's provisions and notes it has extended roaming privileges to other wireless providers during numerous events in which the Framework's activation criteria were not triggered.⁹³ AT&T notes that it has universally allowed roaming on its network when it has had capacity, including by non-Framework signatories, and believes the same to be true of other signatories.⁹⁴ Verizon notes that it has already voluntarily entered into bilateral roaming agreements with AT&T, T-Mobile and some mid-sized and smaller providers that pertain to disaster scenarios.⁹⁵ Other wireless providers, or their industry groups, provide numerous examples of how providers are already investing significant time and resources into complying with the Framework provisions, even when they are not signatories or bound to the Framework's terms, to enhance their networks' resiliency.⁹⁶ Given these efforts, we find it reasonable to conclude that the one-time implementation costs imposed on Framework signatories to implement uniform procedures to comply with today's MDRI will be minimal. We note for clarity that any framework signatory that qualifies as a small entity under today's definition is afforded additional time for compliance with today's rules compared to non-small entities.⁹⁷

⁸⁸ *Resilient Networks Notice* at 11-12, para 47, Appx.

⁸⁹ Public Knowledge Reply at 5-7.

⁹⁰ CPUC Reply at 2.

⁹¹ AT&T Comments at 6; CCA Comments at 6 (describing the practice of Framework signatories taking proactive efforts even when the Framework's triggers are not satisfied); USTelecom Reply at 3.

⁹² CCA Comments at 6.

⁹³ AT&T Comments at 8-9; *see also* CCA Comments at 6.

⁹⁴ AT&T Comments at 9-10.

⁹⁵ Verizon Comments at 12-13.

⁹⁶ CCA Comments at 2-3, 6; CTIA Comments at 16; CTIA Reply at 3; T-Mobile Comments at 5; USTelecom Comments at 3.

⁹⁷ *Infra*, § III.E

42. *Regional and local facilities-based mobile wireless providers that are not Framework Signatories.* We find that regional and local entities will incur one-time implementation costs to transition from their existing processes to new processes to comply with today's MDRI. As noted in the record, regional and local facilities-based mobile wireless providers already accrue costs to implement steps similar to those described in today's rules. For example, ACA Connects notes that its members (which are small regional or local entities) have "developed plans outlining specific actions to be performed at specific preparatory stages (e.g., at 72, 48 or 24 hours in advance of an impending storm)," including typically by "identify[ing] service restoration priorities[,] coordinat[ing] extensively within their companies to ensure all available resources are brought to bear effectively and that customers (both residential and enterprise) are kept informed of service impacts and progress in restoring outages[,] and coordinat[ing] with first responders, power companies, and fellow communications providers in their service area."⁹⁸ ACA Connects notes that its members currently "readily coordinate and share information with local, State and Federal authorities, as well as other communications providers and power companies."⁹⁹ ACA Connects further notes that this sort of information exchange "allows for a more efficient and coordinated restoration effort" and enables providers to "continually update their plans based on 'lessons learned' from previous events."¹⁰⁰ Similarly, NTCA notes that small wireless providers "certainly abide" by the underlying principles of the Framework—i.e., even if they do not follow the Framework's specific requirements as mandated by today's rules.¹⁰¹ Given these efforts, we believe that the total setup costs for regional and local providers to implement the MDRI will be limited.

43. Specifically, we estimate that the nation's regional and local facilities-based mobile wireless providers that are not current Framework signatories will incur total initial setup costs of approximately \$945,000 based on our estimate of 63 such providers each spending 50 hours of time on legal services at \$107/hour, 50 hours of time on software development at \$87/hour, and 100 hours of time on public relations and outreach activities at \$53/hour.¹⁰² These setup costs enable the regional and local providers to update or revise their existing administrative and technical processes to conform to processes required by today's rules, including those related to roaming arrangements, fostering mutual aid, enhancing municipal preparedness, increasing consumer readiness and improving public awareness and shareholder communications on service and restoration status.

44. *Recurring Costs.* Commenters have provided no evidence, as requested in the *Notice*, of

⁹⁸ ACA Connects Comments at 4-5, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35 (rec. Dec. 16, 2021).

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ NTCA Comments at 4.

¹⁰² In developing this analysis, the Commission has relied on data on the number of entities derived from 2022 Voice Telephone Services Report (VTSR), and on 2021 national wage information from the Bureau of Labor and Statistics. The number of providers is based on the mobile telephony figure of 69 in the VTSR minus six providers we know to be Framework signatories. See FCC, Office of Economics and Analytics, Industry Analysis Division, Voice Telephone Services Status as of December 31, 2019 at 10 (March 2022), <https://docs.fcc.gov/public/attachments/DOC-381123A1.pdf>. The median hourly cost for software developers is \$87, which is the median hourly wage of \$58 increased by 50% to include benefits, the median hourly cost for lawyers is \$107, which is the median hourly wage of \$71 increased by 50% for benefits, and the median hourly cost for public relation specialists is \$53, which is the median hourly wage of \$35 increased by 50% for benefits. See Bureau of Labor and Statistics, Occupational Employment and Wages, Software Developers (last visited June 6, 2022), <https://www.bls.gov/oes/current/oes151252.htm>, Lawyers (last visited June 6, 2022), <https://www.bls.gov/oes/current/oes231011.htm>, Public Relation Specialists (last visited June 6, 2022), <https://www.bls.gov/oes/current/oes273031.htm>. According to Bureau of Labor Statistics, benefits (including paid leave, supplementary pay, insurance, retirement and savings, and legally required benefits) add approximately 50% to compensation in the information industry as a whole. See Bureau of Labor Statistics, Economic News Release, Private industry workers by occupational and industry group (2021), <https://www.bls.gov/news.release/ecec.t04.htm>.

any significant additional recurring costs. Nevertheless, the industry will incur an annual recurring cost, imposed by the new testing and reporting requirements. We find, however, that these costs are likely mitigated for a number of reasons. The incremental costs of testing are lessened to the extent that facilities-based providers already engage in regular assessments of their roaming capabilities with their roaming partners. Moreover, we find that these cost increases will be substantially offset, over the long term, by the lowering of transaction costs. Under our new rules, a provider's bilateral roaming agreements with other providers will contain similar elements in key provisions and these details will no longer need to be determined on a partner-by-partner basis, thus reducing transaction costs. The setup and recurring costs also will be substantially offset by the network's increase in economic efficiency as providers start sharing more of their unused capacity and idle equipment during disasters and other emergencies. Finally, because our requirement for providers to issue reports detailing the timing, duration and effectiveness of their implementation of the MDRI first entails a Public Notice specifying the providers and geographic area affected, the recurring costs for reporting purposes will be limited to instances where the Commission sees a legitimate need to require such reports.

45. *Nationwide impact.* We agree with Public Knowledge that there are significant benefits in requiring providers to coordinate preparation for disasters and with Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI) that the benefits of adopting a mandatory approach, as in today's rule, would be widespread, including by increasing access to critical information by individuals in the deaf, hard of hearing, and deafblind communities.¹⁰³ Further, CTIA testified at the Commission's 2021 virtual Field Hearing on improving the resiliency and recovery of communications networks during disasters that the Framework is a "collaborat[ive] . . . jumpstart[] [to] response and recovery" and allows for continuous growth through lessons learned during "increasing severity and frequency of disasters" allowing for the development of "best practices [to] strengthen our networks, our response, and our performance for everyone who relies on wireless during emergencies."¹⁰⁴ Moreover, we find that the benefits attributable to improving facilities-based mobile wireless network resiliency in the context of emergency situations is substantial and will promote the health and safety of residents during times of natural disaster or other unanticipated events that impair telecommunications infrastructure.¹⁰⁵

46. While it would be impossible to quantify the precise financial value of these health and safety benefits, we note that the value of these benefits would have to exceed the implementation cost of less than \$1 million, together with the annual recurring costs imposed by the new testing and reporting requirements, to outweigh the total cost of compliance.¹⁰⁶ In light of the record reflecting large benefits to consumers and other communities, we find that the total incremental costs imposed on the nation's facilities-based mobile wireless providers by these new requirements will be minimal in many cases and, even when significant, will be far outweighed by the nationwide benefits.

¹⁰³ Public Knowledge Comments at 18-19; TDI Comments at 4-5.

¹⁰⁴ Statement of Testimony from Scott Bergmann, Senior Vice President, CTIA, to Jessica Rosenworcel, Chairwoman, Federal Communications Commission at 1-2 (rec. Oct. 26, 2021) (On file in PS Docket Nos. 21-346 and 15-80; ET Docket No. 04-35) (CTIA Field Hearing Testimony).

¹⁰⁵ See CTIA, *Wireless Industry Commitment—Wireless Network Resiliency Cooperative Framework: Best Practices for Enhancing Emergency and Disaster Preparedness and Restoration*, <https://www.ctia.org/the-wireless-industry/industry-commitments/wireless-network-resiliency-cooperative-framework> (last visited Apr. 20, 2022). "Wireless providers . . . should coordinate access to impacted areas for service restoration through a 'playbook' or checklist."

¹⁰⁶ This reasoning is an example of a "breakeven analysis" recommended by the Office of Information and Regulatory Affairs (OIRA) in cases where precise quantification and monetization of benefits is not possible. See Office of Information and Regulatory Analysis (OIRA), *Regulatory Impact Analysis: A Primer*, https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/regpol/circular-a-4_regulatory-impact-analysis-a-primer.pdf (last visited Apr. 12, 2022) (urging agencies to ask, "[h]ow large would the value of the non-quantified benefits have to be for the rule to yield positive net benefits?").

E. Timelines for Compliance

47. We set a compliance date for today's rules at the later of (i) 30 days after the Bureau issues a Public Notice announcing that OMB has completed review of any new information collection requirements associated with today's Report & Order or (ii) nine months after the publication of this Report and Order in the Federal Register for small facilities-based mobile wireless providers and six months after the publication of this Report & Order in the Federal Register for all other (i.e., not small) facilities-based mobile wireless providers.¹⁰⁷ We require a provider have each bilateral roaming agreement, as described in section 4.17(a)(1), executed and in place no later than its associated compliance date, have mutual aid arrangements, as described in section 4.17(a)(2), in place within 30 days of its associated compliance date, and perform a complete first round of testing, as described in section 4.17(b), no later than its associated compliance date. We note for clarity that the compliance date associated with a small facilities-based mobile wireless providers applies for the requirements of section 4.17(a)(2) when at least one party to the mutual aid arrangement is a small facilities-based mobile wireless provider. We further note that finalization of arrangements under section 4.17(a)(2) will be required 30 days after compliance with the other provisions of section 4.17. To the extent that a new facilities-based mobile wireless service provider subsequently commences service, it is required to comply with these provisions 30 days following commencement of service. As reflected at 4.17(e), we direct the Bureau to issue a Public Notice that announces the compliance dates for all facilities-based mobile wireless providers upon obtaining OMB approval of the new information collection requirements associated with today's Report & Order.

48. Today's rules require that facilities-based mobile wireless providers take steps to update their processes to implement our MDRI, which codifies many of the Framework's provisions. We find that providers will require only a modest amount of time to adjust their processes to comply with today's rules because, as noted above, they already implement actions closely aligned with the Framework's steps and, in some cases, take significant additional actions as part of their existing practices.¹⁰⁸ For instance, AT&T and a non-Framework signatory roamed on each other's networks for months after disaster Hurricane Maria.¹⁰⁹ Signatories to the Wireless Network Resiliency Cooperative Framework implemented it immediately and, when hurricane season arrived six months later, the signatories demonstrated their implementation by voluntarily reporting in DIRS.¹¹⁰ In addition, we find that these changes must be made expeditiously given recent observations of network failures during disasters.¹¹¹ As small and large providers, or their industry groups, have emphasized that they could implement the Framework immediately, or else take Framework-like measures already, we believe that this time range

¹⁰⁷ We adopt the Small Business Administration (SBA)'s standard, which classifies a provider in this industry as small if it has 1,500 or fewer employees. See 13 CFR § 121.201, NAICS Code 517312; *supra* at para. 24; *Infra* at App. A, 4.17(b) and 4.17(c).

¹⁰⁸ AT&T Comments at 8-10; CCA Comments at 2-3, 6; Verizon Comments at 12-13; CTIA Comments at 16; CTIA Reply at 3; T-Mobile Comments at 5; USTelecom Comments at 3.

¹⁰⁹ See AT&T Comments at 9.

¹¹⁰ See Letter from Michael Mullinix, Directory, Regulatory Affairs, The Cellular Telecommunications and Internet Association, to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket Nos. 21-346 and 1580, ET Docket No. 04-35 (rec. Jan. 10, 2022) (describing CTIA's report *Answering the Call: Wireless for Good*, showcasing the wireless industry's commitment to wireless resiliency) (CTIA Letter).

¹¹¹ See Public Knowledge Comments at 5; see also, e.g., *October 2018 Hurricane Michael's Impact on Communications: Preparation, Effect, and Recovery*, Report and Recommendations, PS Docket No. 18-339 (PSHSB 2019) (*Hurricane Michael Report*).

provides sufficient time for providers to implement any changes and make any necessary arrangements.¹¹²

IV. FURTHER NOTICE OF PROPOSED RULEMAKING

49. The reporting obligation adopted today at section 4.17(c) of our rules requires facilities-based wireless providers to submit a report detailing the timing, duration and effectiveness of their implementation of the MDRI's provisions within 60 days of when the Bureau issues a Public Notice announcing such reports must be filed for providers operating in a given geographic area in the aftermath of a disaster. We confirm that initial reports from providers pursuant to 4.17(c) will be due in response to the first triggering event, as described at section 4.17(a), that occurs on or after a provider's associated compliance date.¹¹³

50. In this FNPRM we seek comment on whether it would be beneficial to create a standardized form that providers could use for future reporting under rule 4.17(c). To this end, we propose to direct the Public Safety and Homeland Security Bureau, under delegated authority, to develop a standardized reporting form. We seek comment on this approach and any associated costs and benefits.

51. We also seek comment on the contents of such standardized reporting forms. AT&T, for example, suggests that relevant details may include whether a provider roamed, the other providers it roamed with, the time period involved and, if relevant, the time it took for a provider to perform a health assessment and activate roaming.¹¹⁴ We seek comment on all the approaches described here, including on the associated costs and benefits.

52. We seek comment also on the basis pursuant to which facilities-based mobile wireless providers could seek confidential treatment for reports under the Commission's confidentiality rules,¹¹⁵ or if such reports should be publicly filed. We seek comment on an appropriate compliance date for providers' use of any new standardized reporting form(s) that may be developed, including whether the compliance date should depend on the class of provider (e.g., large versus small providers) subject to the requirements.

V. PROCEDURAL MATTERS

53. *Ex Parte Rules.*—The proceeding initiated by the *Further Notice* shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission's *ex parte* rules. Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must: (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made; and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or

¹¹² See Letter from Christi Shewman, Attorney, AT&T Services, Inc., to Lisa M. Fowlkes, (former) Chief, Public Safety and Homeland Security Bureau, Federal Communications Commission, PS Docket No. 11-60, at 15, 30, 32, 38, 44, 49 (rec. Nov. 26, 2018) (describing successful implementation of the Framework during disaster and emergency situations); see also Letter from Steve B. Sharkey, Vice President, Government Affairs, Technology and Engineering Policy, T-Mobile USA, Inc., to Lisa M. Fowlkes, (former) Chief, Public Safety and Homeland Security Bureau, Federal Communications Commission, PS Docket No. 11-60, at 6, 10-11, 14, 16, 18 and 20 (rec. Nov. 26, 2018) (describing successful implementation of the Framework during disaster and emergency situations).

¹¹³ *Supra*, § III.E

¹¹⁴ AT&T Comments at 13-14; see also Free Press Foundation Reply, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 20 (rec. Jan. 14, 2022)(Free Press Reply).

¹¹⁵ See 47 CFR § 0.459; see also *Enforcement Bureau Reminds Public that Requests for Confidentiality Must Cover Only Material Warranting Confidential Treatment under the Commission's Rules*, Public Notice, 35 FCC Rcd 6300 (2020).

arguments already reflected in the presenter's written comments, memoranda, or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

54. *Comment Filing Procedures.*—Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS). See *Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: <http://fjallfoss.fcc.gov/ecfs2/>.
- Paper Filers: Parties that choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.
- Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.
 - Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701
 - Postal Service first-class, Express, and Priority mail must be addressed to 45 L Street, NE, Washington DC 20554
- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID-19.
- During the time the Commission's building is closed to the general public and until further notice, if more than one docket or rulemaking number appears in the caption of a proceeding, paper filers need not submit two additional copies for each additional docket or rulemaking number; an original and one copy are sufficient.

55. *People with Disabilities:* To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530.

56. *Regulatory Flexibility Act.* The Regulatory Flexibility Act of 1980, as amended (RFA),¹¹⁶ requires that a regulatory flexibility analysis be prepared for notice and comment rulemaking proceedings, unless the agency certifies that "the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities."¹¹⁷ Accordingly, the Commission has

¹¹⁶ 5 U.S.C. § 603. The RFA, 5 U.S.C. §§ 601–612, was amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

prepared a Final Regulatory Flexibility Analysis (FRFA) concerning potential rule and policy changes contained in this document. The FRFA is set forth in Appendix B. We have also prepared an Initial Regulatory Flexibility Analysis (IRFA) concerning the potential impact of rule and policy change proposals on small entities in the Further Notice of Proposed Rulemaking. The IRFA is set forth in Appendix C.

57. *Paperwork Reduction Act Analysis.* Today's rules may constitute new or modified information collection requirements. All such new or modified information collection requirements will be submitted to the Office of Management and Budget (OMB) for review under section 3507(d) of the Paperwork Reduction Act of 1995 (PRA).¹¹⁸ OMB, the general public, and other Federal agencies are invited to comment on any new or modified information collection requirements contained in this proceeding. In addition, we note that, pursuant to the Small Business Paperwork Relief Act of 2002,¹¹⁹ the Commission previously sought, but did not receive, specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees. The Commission does not believe that any new information collection requirements will be unduly burdensome on small businesses. Applying these new information collection requirements will promote public safety response efforts, to the benefit of all size governmental jurisdictions, businesses, equipment manufacturers, and business associations by providing better situational information related to the nation's network outages and infrastructure status. We describe impacts that might affect small businesses, which includes most businesses with fewer than 25 employees, in the FRFA in Appendix B.

58. The *Further Notice* may contain proposed new or modified information collection requirements related to providers' reporting of their roaming measures to the Commission. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on any such information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4), we seek specific comment on how we might further reduce the information collection burden for small business concerns with fewer than 25 employees.

59. *Congressional Review Act.* The Commission has determined, and the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, concurs, that this rule is "non-major" under the Congressional Review Act, 5 U.S.C. § 804(2). The Commission will send a copy of this Report & Order to Congress and the Government Accountability Office pursuant to 5 U.S.C. § 801(a)(1)(A).

60. *Further Information.* For further information regarding the Further Notice of Proposed Rulemaking, contact Erika Olsen, Acting Division Chief, Public Safety and Homeland Security Bureau at 202-418-2868 or Erika.Olsen@fcc.gov or Logan Bennett, Attorney Advisor, Public Safety and Homeland Security Bureau at 202-418-7790 or Logan.Bennett@fcc.gov.

VI. ORDERING CLAUSES

61. ACCORDINGLY IT IS ORDERED that, pursuant to the authority contained in Sections 1, 4(i), 4(j), 4(o), 201(b), 214(d), 218, 251(e)(3), 301, 303(b), 303(g), 303(j), 303(r), 307, 309(a), 309(j), 316, 332, 403, 615a-1, and 615c of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i)-(j) & (o), 201(b), 214(d), 218, 251(e)(3), 301, 303(b), 303(g), 303(j), 303(r), 307, 309(a), 309(j), 316, 332, 403, 615a-1, and 615c, this Report and Order and Further Notice of Proposed Rulemaking in PS Docket Nos. 21-346 and 15-80 and ET Docket No. 04-35 is HEREBY ADOPTED.

(Continued from previous page) _____

¹¹⁷ *Id.* § 605(b).

¹¹⁸ 44 U.S.C. § 3507(d).

¹¹⁹ Pub. L. No. 107-198, 116 Stat. 729 (2002) (codified at 44 U.S.C. § 3506(c)(4)).

62. IT IS FURTHER ORDERED that the amended Commission rules as set forth in Appendix A at section 4.17 ARE ADOPTED, effective 30 days after publication in the *Federal Register*. Compliance with the rules adopted in this Report & Order will not be required until the later of (i) 30 days after the Public Safety and Homeland Security Bureau issues a Public Notice announcing completion of Office of Management and Budget (OMB) review of any new information collection requirements associated with today's Report & Order or (ii) nine months after the publication of this Report and Order in the *Federal Register* for facilities-based mobile wireless providers with 1500 or fewer employees and six months after the publication of this Report & Order in the *Federal Register* for all other facilities-based mobile wireless providers. For the purposes of the provisions of section 4.17(a)(2), compliance will be required 30 days after the compliance date for all other provisions, and the compliance date for a small facilities facilities-based mobile wireless provider will apply when at least one party to the mutual aid arrangement is a small facilities-based mobile wireless provider. The Commission directs the Public Safety and Homeland Security Bureau to announce the compliance dates by subsequent Public Notice and to cause 47 CFR § 4.17 to be revised accordingly.

63. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Report and Order and Further Notice of Proposed Rulemaking, including the Final Regulatory Flexibility Analysis and Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

64. IT IS FURTHER ORDERED THAT the Office of Managing Director, Performance Evaluation and Records Management, SHALL SEND a copy of this Report and Order and Further Notice of Proposed Rulemaking in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, 5 U.S.C. § 801(a)(1)(A).

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

Final Rules

Part 4 of the Commission's Rules, 47 CFR part 4, is amended as follows:

PART 4 – DISRUPTIONS TO COMMUNICATIONS

1. The authority citation for part 4 continues to read as follows:

The authority citation for part 4 continues to read as follows:

Authority: [To be added prior to publication of the summary in the Federal Register.]

2. Add § 4.17 to read as follows:

§ 4.17 Mandatory Disaster Response Initiative

Section 4.17 is added to read as follows:

(a) Facilities-based mobile wireless providers are required to perform, or have established, the following procedures when: (i) any entity authorized to declare Emergency Support Function 2 (ESF-2) activates ESF-2 for a given emergency or disaster; (ii) the Commission activates the Disaster Information Reporting System (DIRS); or (iii) the Commission's Chief of the Public Safety and Homeland Security Bureau issues a Public Notice activating the Mandatory Disaster Response Initiative in response to a state request to do so, where the state has also either activated its Emergency Operations Center, activated mutual aid or proclaimed a local state of emergency:

(1) provide for reasonable roaming under disaster arrangements (RuDs) when technically feasible, where: (i) a requesting provider's network has become inoperable and the requesting provider has taken all appropriate steps to attempt to restore its own network, and (ii) the provider receiving the request (home provider) has determined that roaming is technically feasible and will not adversely affect service to the home provider's own subscribers, provided that existing roaming arrangements and call processing methods do not already achieve these objectives and that any new arrangements are limited in duration and contingent on the requesting provider taking all possible steps to restore service on its own network as quickly as possible.

(2) establish mutual aid arrangements with other facilities-based mobile wireless providers for providing aid upon request to those providers during emergencies, where such agreements address the sharing of physical assets and commit to engaging in necessary consultation where feasible during and after disasters, provided that the provider supplying the aid has reasonably first managed its own network needs;

(3) take reasonable measures to enhance municipal preparedness and restoration;

(4) take reasonable measures to increase consumer readiness and preparation; and

(5) take reasonable measures to improve public awareness and stakeholder communications on service and restoration status.

(b) Providers subject to the requirements of subsection (a) are required to perform annual testing of their roaming capabilities and related coordination processes, with such testing performed bilaterally with other providers that may foreseeably roam, or request roaming from, the provider during times of disaster or other exigency.

(c) Providers subject to the requirements of subsection (a) are required to submit reports to the Commission detailing the timing, duration and effectiveness of their

implementation of the Mandatory Disaster Response Initiative's provisions within 60 days of when the Public Safety and Homeland Security Bureau issues a Public Notice announcing such reports must be filed for providers operating in a certain geographic area in the aftermath of a disaster.

(d) Providers subject to the requirements of subsection (a) are required retain RuDs for a period of at least one year after their expiration and supply copies of such agreements to the Commission promptly upon Commission request.

(e) *Compliance dates.* This section 4.17 may contain information collection and/or recordkeeping requirements. Compliance with this section will not be required until this paragraph (e) is removed or contains compliance dates, which will not occur until the later of (1) 30 days after the Office of Management and Budget completes review of such requirements pursuant to the Paperwork Reduction Act or the Public Safety and Homeland Security Bureau determines that such review is not required, or (2) nine months after publication of this Report and Order in the *Federal Register* for facilities-based mobile wireless service providers with 1500 or fewer employees and six months after publication of this Report and Order in the *Federal Register* for all other facilities-based mobile wireless service providers, except that compliance with paragraph (a)(2) of this section will not be required until 30 days after the compliance date for the other provisions of this section. The Commission directs the Public Safety and Homeland Security Bureau to announce the compliance dates section 4.17 by subsequent Public Notice and to cause this section to be revised accordingly.

APPENDIX B

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Resilient Networks; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications* Notice of Proposed Rulemaking (*Resilient Networks Notice*) released in October 2021.² The Commission sought written public comment on the proposals in the *Notice*, including comment on the IRFA. No comments were filed addressing the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.³

A. Need for, and Objectives of, the Final Rules

2. In today's Report and Order (*Order*), the Commission adopts rules that require all facilities-based mobile wireless providers to comply with the Mandatory Disaster Response Initiative (MDRI), which codifies the Wireless Network Resiliency Cooperative Framework (Framework), an agreement developed by the wireless industry in 2016 to provide mutual aid in the event of a disaster, and expands the events that trigger its activation. The *Order* also implements new requirements for testing of roaming capabilities and MDRI performance reporting to the Commission. These actions will improve the reliability, resiliency, and continuity of communications networks during emergencies. This action uniformizes the nation's response efforts among facilities-based mobile wireless providers who, prior to today's rules, implemented the Framework on a voluntary basis. The Framework commits its signatories to compliance with the following five prongs: (1) providing for reasonable roaming arrangements during disasters when technically feasible; (2) fostering mutual aid during emergencies; (3) enhancing municipal preparedness and restoration; (4) increasing consumer readiness and preparation, and (5) improving public awareness and stakeholder communications on service and restoration status.⁴ Under today's rules, the Mandatory Disaster Response Initiative incorporates these elements, the new testing and reporting requirements and will be activated when any entity authorized to declare Emergency Support Function 2 (ESF-2) activates ESF-2 for a given emergency or disaster, the Commission activates the Disaster Information Reporting System (DIRS), or the Commission's Chief of Public Safety and Homeland Security issues a Public Notice activating the MDRI in response to a state request to do so, where the state has also either activated its Emergency Operations Center, activated mutual aid or proclaimed a local state of emergency.

3. Recent events including Hurricane Ida, earthquakes in Puerto Rico, severe winter storms in Texas, and hurricane and wildfire seasons continue to demonstrate how the United States' communications infrastructure remains susceptible to disruption during disaster events. By creating the MDRI for facilities-based mobile wireless providers, the Commission seeks to deliver the appropriate tools to promote public safety during emergency events by expanding the scope of application of the Framework's provisions, revisiting the triggers for activation, adding new roaming capabilities testing and MDRI performance reporting requirements, and laying the groundwork to provide seamless and

¹ See 5 U.S.C. § 603. The RFA, 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² *Resilient Networks; Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications; New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket Nos. 21-346, 15-80, ET Docket No. 04-35, Notice of Proposed Rulemaking, FCC 21-99 (2021) (*Resilient Networks Notice*).

³ See 5 U.S.C. § 604.

⁴ *Resilient Networks Notice* at 1-2, paras. 2-3; *Improving the Resiliency of Mobile Wireless Communications Networks; Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket Nos. 13-239 (terminated), 11-60, Order, FCC 16-173, at 3 (2016) (*Framework Order*).

effective roaming in disaster situations, including ensuring accountability to the Commission.

4. The rules in today's *Order* also address findings of the Government Accountability Office (GAO) concerning wireless network resiliency. In 2017, the Government Accountability Office (GAO), in conjunction with its review of federal efforts to improve the resiliency of wireless networks during natural disasters and other physical incidents, released a report recommending that the Commission should improve its monitoring of industry efforts to strengthen wireless network resiliency.⁵ The GAO found that the number of wireless outages attributed to a physical incident—a natural disaster, accident, or other manmade event, such as vandalism—increased from 189 in 2009 to 1,079 in 2016. The GAO concluded that more robust measures and a better plan to monitor the Framework would help the FCC collect information on the Framework and evaluate its effectiveness, and that such steps could help the FCC decide if further action is needed. In light of prolonged outages during several emergency events in 2017 and 2018, and in parallel with the GAO recommendations, the Public Safety and Homeland Security Bureau (Bureau) conducted several inquiries⁶ and investigations⁷ to better understand and track the output and effectiveness of the Framework and other voluntary coordination efforts that promote wireless network resiliency and situational awareness during and after these hurricanes and other emergencies.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

5. There were no comments filed that specifically address the proposed rules and policies in the IRFA.

C. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration

6. Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the

⁵ Government Accountability Office, FCC Should Improve Monitoring of Industry Efforts to Strengthen Wireless Network Resiliency at 36 (2017), <https://www.gao.gov/assets/gao-18-198.pdf> (GAO Report). The report recommended that the Commission develop specific and measurable objectives for the Framework and a plan to monitor and document the outputs and outcomes of the Framework to evaluate its effectiveness.

⁶ See *Public Safety and Homeland Security Bureau Seeks Comment on the Effectiveness of the Wireless Network Resiliency Cooperative Framework and for the Study on Public Access to 911 Services during Emergencies*, PS Docket No. 11-60, Public Notice, 33 FCC Rcd 5997 (PSHSB 2018) (*Framework Effectiveness Public Notice*); News Release, FCC, FCC Launches Re-Examination of Wireless Resiliency Framework in Light of Recent Hurricanes, *Agency Sends Letters to Framework Signatories Asking Them to Provide Post-Disaster Action Reports* (Nov. 6, 2018), <https://docs.fcc.gov/public/attachments/DOC-354963A1.pdf>. The Bureau also issued three Public Notices seeking comment on improvements to the Framework. See *Public Safety and Homeland Security Bureau Seeks Comment on Improving Wireless Network Resiliency to Promote Coordination through Backhaul Providers*, PS Docket No. 11-60, Public Notice, DA 18-1238 (PSHSB Dec. 10, 2018) (*Backhaul Public Notice*); *Public Safety and Homeland Security Bureau Seeks Comment on Improving Wireless Network Resiliency Through Encouraging Coordination with Power Companies*, PS Docket No. 11-60, Public Notice, DA 19-13 (PSHSB Jan. 03, 2019) (*Power Public Notice*); *Public Safety and Homeland Security Bureau Seeks Comment on Improving the Wireless Network Resiliency Cooperative Framework*, PS Docket No. 11-60, Public Notice, DA 19-242 (PSHSB Apr. 1, 2019) (*Effectiveness Public Notice*). In February 2020, following a series of PSHSB staff coordination meetings with wireless, backhaul and electric service providers to discuss the gaps identified in the above record, CTIA and the Edison Electric Institute formed the Cross-Sector Resiliency Forum on February 27, 2020 and released a 12-step action plan to improving wireless resiliency.

⁷ Following Hurricane Michael, for example, the Bureau issued a report on the preparation and response of communications providers finding three key reasons for prolonged outages during that event: insufficiently resilient backhaul connectivity; inadequate reciprocal roaming arrangements; and lack of coordination between wireless service providers, power crews, and municipalities. See *Hurricane Michael Report* at 4, para. 6.

proposed rules as a result of those comments.⁸

7. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

D. Description and Estimate of the Number of Small Entities to Which the Rules Will Apply

8. The RFA directs agencies to provide a description of and, where feasible, an estimate of, the number of small entities that may be affected by the rules, adopted herein.⁹ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”¹⁰ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.¹¹ A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.¹²

9. *Small Businesses, Small Organizations, and Small Governmental Jurisdictions.* Our actions may, over time, affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three broad groups of small entities that could be directly affected herein.¹³ First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the SBA’s Office of Advocacy, in general a small business is an independent business having fewer than 500 employees.¹⁴ These types of small businesses represent 99.9% of all businesses in the United States which translates to 32.5 million businesses.¹⁵

10. Next, the type of small entity described as a “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”¹⁶ Internal Revenue Service (IRS) uses a revenue benchmark of \$50,000 or less to delineate its annual electronic filing requirements for small exempt organizations.¹⁷ Nationwide, for tax year 2020, there

⁸ 5 U.S.C. § 604(a)(3).

⁹ 5 U.S.C. § 604(a)(4).

¹⁰ 5 U.S.C. § 601(6).

¹¹ 5 U.S.C. § 601(3) (incorporating by reference the definition of “small-business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

¹² 15 U.S.C. § 632.

¹³ See 5 U.S.C. § 601(3)-(6).

¹⁴ See SBA, Office of Advocacy, Frequently Asked Questions, “What is a small business?,” <https://cdn.advocacy.sba.gov/wp-content/uploads/2021/11/03093005/Small-Business-FAQ-2021.pdf> (Nov. 2021).

¹⁵ *Id.*

¹⁶ 5 U.S.C. § 601(4).

¹⁷ The IRS benchmark is similar to the population of less than 50,000 benchmark in 5 U.S.C § 601(5) that is used to define a small governmental jurisdiction. Therefore, the IRS benchmark has been used to estimate the number small organizations in this small entity description. See Annual Electronic Filing Requirement for Small Exempt Organizations — Form 990-N (e-Postcard), “Who must file,” <https://www.irs.gov/charities-non-profits/annual-electronic-filing-requirement-for-small-exempt-organizations-form-990-n-e-postcard>. We note that the IRS data does not provide information on whether a small exempt organization is independently owned and operated or dominant in its field.

were approximately 447,689 small exempt organizations in the U.S. reporting revenues of \$50,000 or less according to the registration and tax data for exempt organizations available from the IRS.¹⁸

11. Finally, the small entity described as a “small governmental jurisdiction” is defined generally as “governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”¹⁹ U.S. Census Bureau data from the 2017 Census of Governments indicate that there were 90,056 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States.²⁰ Of this number there were 36,931 General purpose governments (county²¹, municipal and town or township²²) with populations of less than 50,000 and 12,040 special purpose governments – independent school districts²³ with enrollment of less than 50,000.²⁴ Accordingly, based on the 2017 U.S. Census of Governments data, we estimate that at least 48,971 entities fall into the category of “small governmental jurisdictions.”²⁵

12. The rules adopted in the *Order* apply only to facilities-based mobile wireless providers, which include small entities as well as larger entities. The Commission has not developed a small business size standard directed specifically toward these entities. However in our cost estimate discussion below in Section E, we estimate costs based on Commission data that there are approximately 63 small facilities-based mobile wireless providers. As described below, these entities fit into larger industry

¹⁸ See Exempt Organizations Business Master File Extract (EO BMF), “CSV Files by Region,” <https://www.irs.gov/charities-non-profits/exempt-organizations-business-master-file-extract-eo-bmf>. The IRS Exempt Organization Business Master File (EO BMF) Extract provides information on all registered tax-exempt/non-profit organizations. The data utilized for purposes of this description was extracted from the IRS EO BMF data for businesses for the tax year 2020 with revenue less than or equal to \$50,000, for Region 1-Northeast Area (58,577), Region 2-Mid-Atlantic and Great Lakes Areas (175,272), and Region 3-Gulf Coast and Pacific Coast Areas (213,840) which includes the continental U.S., Alaska, and Hawaii. This data does not include information for Puerto Rico.

¹⁹ 5 U.S.C. § 601(5).

²⁰ See U.S. Census Bureau, 2017 Census of Governments—Organization, Table 2. Local Governments by Type and State: 2017 [CG1700ORG02], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. Local governmental jurisdictions are made up of general purpose governments (county, municipal and town or township) and special purpose governments (special districts and independent school districts). See also tbl.2. CG1700ORG02 Table Notes_Local Governments by Type and State_2017.

²¹ See *id.* at tbl.5, County Governments by Population-Size Group and State: 2017 [CG1700ORG05], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 2,105 county governments with populations less than 50,000. This category does not include subcounty (municipal and township)

²² See *id.* at tbl.6, Subcounty General-Purpose Governments by Population-Size Group and State: 2017 [CG1700ORG06], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 18,729 municipal and 16,097 town and township governments with populations less than 50,000.

²³ See *id.* at tbl.10, Elementary and Secondary School Systems by Enrollment-Size Group and State: 2017 [CG1700ORG10], <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 12,040 independent school districts with enrollment populations less than 50,000. See also tbl.4. Special-Purpose Local Governments by State Census Years 1942 to 2017 [CG1700ORG04], CG1700ORG04 Table Notes Special Purpose Local Governments by State_Census Years 1942 to 2017.

²⁴ While the special purpose governments category also includes local special district governments, the 2017 Census of Governments data does not provide data aggregated based on population size for the special purpose governments category. Therefore, only data from independent school districts is included in the special purpose governments category.

²⁵ This total is derived from the sum of the number of general purpose governments (county, municipal and town or township) with populations of less than 50,000 (36,931) and the number of special purpose governments - independent school districts with enrollment populations of less than 50,000 (12,040), from the 2017 Census of Governments - Organizations tbls.5, 6, & 10.

categories that provide these facilities or services for which the SBA has developed small business size standards.

13. *Wireless Telecommunications Carriers (except Satellite)*. This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves.²⁶ Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular services, paging services, wireless internet access, and wireless video services.²⁷ The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.²⁸ U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year.²⁹ Of that number, 2,837 firms employed fewer than 250 employees.³⁰ Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 797 providers that reported they were engaged in the provision of wireless services.³¹ Of these providers, the Commission estimates that 715 providers have 1,500 or fewer employees.³² Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

14. We note that while facilities-based mobile wireless providers fall into this industry description, in assessing whether a business concern qualifies as "small" under the above SBA size standard, business (control) affiliations must be included.³³ Another element of the definition of "small business" requires that an entity not be dominant in its field of operation. An additional element of the definition of "small business" is that the entity must be independently owned and operated. The Commission notes that it is difficult at times to assess these criteria and its estimates of small businesses to which they apply may be over-inclusive to this extent. We are unable at this time to define or quantify the criteria that would establish whether a specific facilities-based mobile wireless provider impacted by the *Order* is dominant in its field of operation. Accordingly, the estimate of small businesses to which rules may apply for this industry description is therefore possibly over-inclusive and thus may overstate the number of small entities that might be affected by our action.

15. *Wireless Communications Services*. Wireless Communications Services (WCS) can be used for a variety of fixed, mobile, radiolocation, and digital audio broadcasting satellite services. Wireless spectrum is made available and licensed for the provision of wireless communications services in several frequency bands subject to Part 27 of the Commission's rules.³⁴ Wireless Telecommunications

²⁶ See U.S. Census Bureau, *2017 NAICS Definition*, "517312 Wireless Telecommunications Carriers (except Satellite)," <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

²⁷ *Id.*

²⁸ See 13 CFR § 121.201, NAICS Code 517312.

²⁹ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFI, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

³⁰ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

³¹ Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2021), <https://docs.fcc.gov/pubId.lic/attachments/DOC-379181A1.pdf>. <https://docs.fcc.gov/pubId.lic/attachments/DOC-379181A1.pdf>.

³² *Id.*

³³ "[Business concerns] are affiliates of each other when one concern controls or has the power to control the other or a third party or parties controls or has the power to control both." 13 CFR § 21.103(a)(1).

³⁴ See 47 CFR §§ 27.1 – 27.1607.

Carriers (*except* Satellite)³⁵ is the closest industry with a SBA small business size standard applicable to these services. The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.³⁶ U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.³⁷ Of this number, 2,837 firms employed fewer than 250 employees.³⁸ Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

16. The Commission's small business size standards with respect to WCS involve eligibility for bidding credits and installment payments in the auction of licenses for the various frequency bands included in WCS. When bidding credits are adopted for the auction of licenses in WCS frequency bands, such credits may be available to several types of small businesses based average gross revenues (small, very small and entrepreneur) pursuant to the competitive bidding rules adopted in conjunction with the requirements for the auction and/or as identified in the designated entities section in Part 27 of the Commission's rules for the specific WCS frequency bands.³⁹

17. In frequency bands where licenses were subject to auction, the Commission notes that as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Further, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated. Additionally, since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

18. The requirements in today's *Order* will impose new or modified reporting, recordkeeping and/or other compliance obligations on small entities. The rules adopted in the *Order* require all facilities-based mobile wireless providers to make adjustments to their restoration and recovery processes, including contractual arrangements and public outreach processes, to account for MDRI. The mutual aid, roaming, municipal preparedness and restoration, consumer readiness and preparation, and public awareness and stakeholder communications provisions adopted in the *Order* are a codification of the flexible standard already developed by the industry in proposing its voluntary Framework. The new provision that expands the events that trigger its activation and that require providers test and report on their roaming capabilities will ensure that the MDRI is implemental effectively and in accordance with the Commission's rules, and the new requirements related to testing and reporting will ensure that roaming is performed effectively with the aim of saving life and property.

19. The roaming requirement adopted by the Commission requires facilities-based mobile wireless providers to "provide for reasonable roaming under disaster arrangements (RuDs) when

³⁵ See U.S. Census Bureau, *2017 NAICS Definition*, "517312 Wireless Telecommunications Carriers (*except* Satellite)," <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

³⁶ See 13 CFR § 121.201, NAICS Code 517312.

³⁷ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePrevious=false>.

³⁸ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

³⁹ See 47 CFR §§ 27.201 – 27.1601. The Designated entities sections in Subparts D – Q each contain the small business size standards adopted for the auction of the frequency band covered by that subpart.

technically feasible, where: (i) a requesting provider's network has become inoperable and the requesting provider has taken all appropriate steps to attempt to restore its own network, and (ii) the provider receiving the request (home provider) has determined that roaming is technically feasible and will not adversely affect service to the home provider's own subscribers, provided that existing roaming arrangements and call processing methods do not already achieve these objectives and that any new arrangements are limited in duration and contingent on the requesting provider taking all possible steps to restore service on its own network as quickly as possible.”⁴⁰ In *THE Order*, we also require facilities-based mobile wireless providers to: (1) enter into bilateral roaming agreements with all other facilities-based mobile wireless providers from which it may foreseeably request roaming privileges, or that may foreseeably request roaming privileges from it, when the MDRI is active, (2) have each bilateral roaming agreement executed and in place no later than the compliance date for the roaming provision of the MDRI, and (3) make copies their bilateral roaming agreements available to the Commission promptly upon Commission request.

20. Pursuant to the “*Safe Harbor*” provision we adopt in the *Order*, a provider may file a letter in the dockets associated with this proceeding which truthfully and accurately asserts pursuant to section 1.16 of the Commission's rules, that the provider is in compliance with the Framework's existing provisions, and has implemented internal procedures to ensure that it remains in compliance with the provisions for: (i) fostering mutual aid among wireless providers during emergencies, (ii) enhancing municipal preparedness and restoration by convening with local government public safety representatives to develop best practices, and establishing a provider/PSAP contact database, (iii) increasing consumer readiness and preparation through development and dissemination with consumer groups of a Consumer Readiness Checklist, and (iv) improving public awareness and stakeholder communications on service and restoration status, through Commission posting of data on cell site outages on an aggregated, county-by-county basis in the relevant area through its DIRS will be presumed to have complied with today's MDRI counterpart provisions at sections 4.17(a)(2)-(5). The “safe harbor” mechanism adopted in the rules does not apply to the requirements that providers implement bilateral roaming arrangements (4.17(a)(1)), test their roaming functionality (4.17(b)) provide reports to the Commission (4.17(c)), or retain RuDs (4.17(d)). Providers that make a “safe harbor” filing are representing adherence to these elements of the Framework as laid out and endorsed by the Commission in October 2016.

21. Small and other regional and local facilities-based mobile wireless providers that are not current Framework signatories will incur one-time implementation costs to transition from their existing processes to new processes to comply with the MDRI. The Commission estimates that the nation's regional and local facilities-based mobile wireless providers as a whole will incur one-time total initial setup costs of \$945,000 to implement the requirements of the *Order* and may require professionals in order to comply. We base our estimate on 63 such providers each spending 50 hours of time on legal services at \$107/hour, 50 hours of time on software development at \$87/hour, and 100 hours of time on public relations and outreach activities at \$53/hour, to update or revise their existing administrative and technical processes to conform, to processes their record keeping and other compliance requirements to those required by today's rule, including those related to roaming arrangements, fostering mutual aid, enhancing municipal preparedness, increasing consumer readiness and improving public awareness and shareholder communications on service and restoration status.⁴¹

⁴⁰ *Infra* at Appendix A.

⁴¹ In developing this analysis, the Commission has relied on data on the number of entities derived from 2022 Voice Telephone Services Report (VTSR), and on 2021 national wage information from the Bureau of Labor and Statistics. The number of providers is based on the mobile telephony figure of 69 in the VTSR minus six providers we know to be Framework signatories. See FCC, Office of Economics and Analytics, Industry Analysis Division, Voice Telephone Services Status as of December 31, 2019 at 10 (March, 2022), <https://docs.fcc.gov/public/attachments/DOC-381123A1.pdf>. The median hourly cost for software developers is \$87, which is the median hourly wage of \$58 increased by 50% to include benefits, the median hourly cost for

(continued....)

22. Facilities-based providers in the industry may also incur an annual recurring cost, imposed by the new testing and reporting requirements and determined that these costs are likely to be mitigated for a number of reasons. The incremental costs of testing are lessened to the extent that facilities-based providers already engage in regular assessments of their roaming capabilities with their roaming partners. Moreover, these cost increases will be substantially offset, over the long term, by the lowering of transaction costs. Under our new rules, a provider's bilateral roaming agreements with other providers will contain similar elements in key provisions and these details will no longer need to be determined on a partner-by-partner basis, thus reducing transaction costs. The setup and recurring costs also will be substantially offset by the network's increase in economic efficiency as providers start sharing more of their unused capacity and idle equipment during disasters and other emergencies.

23. Finally, because our requirement for providers to issue reports detailing the timing, duration and effectiveness of their implementation of the MDRI first entails a Public Notice specifying the providers and geographic area affected, we anticipate recurring costs to be limited to instances where the Commission sees a legitimate need to require such reports. We set compliance dates for today's rules as the later of (1) 30 days after the Office of Management and Budget completes review of such requirements pursuant to the Paperwork Reduction Act or the Public Safety and Homeland Security Bureau determines that such review is not required, or (2) nine months after publication of this Report and Order in the *Federal Register* for facilities-based mobile wireless service providers with 1500 or fewer employees and six months after publication of this Report and Order in the *Federal Register* for all other facilities-based mobile wireless service providers, except that compliance with paragraph (a)(2) of section 4.17 will not be required until 30 days after the compliance date for the other provisions of the section. The Commission has directed the Public Safety and Homeland Security Bureau to announce the compliance dates section 4.17 by subsequent Public Notice and to cause this section to be revised accordingly.

24. We conclude that the benefits of participation by small entities and other providers likely will exceed the costs for affected providers to comply with the rules adopted in today's *Order*. The benefits attributable to improving resiliency in the context of emergency situations is substantial and may have significant positive effects on the abilities of these entities to promote the health and safety of residents during times of natural disaster or other unanticipated events that impair telecommunications infrastructure.

F. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

25. The RFA requires an agency to provide, "a description of the steps the agency has taken to minimize the significant economic impact on small entities...including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected."⁴²

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lawyers is \$107, which is the median hourly wage of \$71 increased by 50% for benefits, and the median hourly cost for public relation specialists is \$53, which is the median hourly wage of \$35 increased by 50% for benefits. See Bureau of Labor and Statistics, Occupational Employment and Wages, Software Developers (last visited June 6, 2022), <https://www.bls.gov/oes/current/oes151252.htm>, Lawyers (last visited June 6, 2022), <https://www.bls.gov/oes/current/oes231011.htm>, Public Relation Specialists (last visited June 6, 2022), <https://www.bls.gov/oes/current/oes273031.htm>. According to Bureau of Labor Statistics, benefits (including paid leave, supplementary pay, insurance, retirement and savings, and legally required benefits) add approximately 50% to compensation in the information industry as a whole. See Bureau of Labor Statistics, Economic News Release, Private industry workers by occupational and industry group (2021), <https://www.bls.gov/news.release/ecec.t04.htm>.

⁴¹ Public Knowledge Comments at 18-19; TDI Comments at 4-5.

⁴² 5 U.S.C. § 604(a)(6).

26. The actions taken by the Commission in the *Order* were considered to be the least costly and minimally burdensome for small and other entities impacted by the rules. The Commission took a number of actions in the *Order* to minimize any significant economic impact on small entities and considered several alternatives. For example, the *Order*'s requirements are only applicable to facilities-based mobile wireless providers and thus other small entity providers that may be capable of roaming are not subject to the adopted provisions. In addition, several of the adopted requirements are based on or incorporate industry-developed standards, and utilize and are consistent with existing Commission requirements. In developing the requirement that facilities-based mobile wireless providers provide reasonable roaming under disaster arrangements (RuDs) when technically feasible, for instance, we define "reasonable roaming" as roaming that does not disturb, but includes compliance with, the Commission's existing requirements that voice roaming arrangements be just, reasonable, and non-discriminatory, and that data roaming arrangements be commercially reasonable.⁴³ Consistency with existing industry standards and Commission requirements increase the likelihood that small entities already have processes and procedures in place to facilitate compliance with the rules we adopt in the *Order* and may only incur increment costs which will minimize the impact for these entities.

27. Some commenters supported an alternative view that all small providers should be excepted from the rules adopted in the *Order* because they need to prioritize work on their own networks or else generally lack the resources required for compliance in the midst of emergencies.⁴⁴ Upon consideration of this position the Commission determined that these concerns can be mitigated because the Framework's provisions such as establishing mutual aid agreements, enhancing municipal preparedness, increasing consumer readiness and preparing and improving public awareness are preparation and coordination can and should be taken well in advance of, rather than in the midst of an emergency. Likewise, securing the appropriate contractual agreements related to roaming is an obligation that should be completed prior to an emergency event. Further and notably, some commenters indicated that small mobile wireless providers already generally abide by the underlying principles of the Framework.⁴⁵ Given that such efforts are already in place or in progress, we believe that the total setup costs for small regional and local providers to implement the MDRI will be limited. Moreover, requiring small providers to take actions adopted in the *Order* to ensure their networks remain operational during emergencies will have the effect of streamlining and standardizing those efforts, thereby making coordination with other entities, including other providers, more efficient than would be possible if small providers were not subject to uniform rules. Small providers are also affording an additional measure of time to comply with adopted rules, requiring compliance within nine months (rather than the six month afforded other providers).

⁴³ See *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers*, WT Docket No. 05-265, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 15817, 15818, para. 1 (2007) (requiring CMRS carriers to provide voice "services to other carriers upon reasonable request and on a just, reasonable, and non-discriminatory basis"); *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Service*, WT Docket No. 05-265, Order on Reconsideration and Second Further Notice of Proposed Rulemaking, 25 FCC Rcd 4181, 4186, para. 11 (2010) (eliminating the home roaming exclusion for voice roaming); *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, WT Docket No. 05-265, Second Report and Order, 26 FCC Rcd 5411, 5418, para. 13 (2011) (requiring "facilities-based providers of commercial mobile data services offer data roaming arrangements to other such providers on commercially reasonable terms and conditions," subject to certain limitations); *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services*, WT Docket No. 05-265, Declaratory Ruling, 29 FCC Rcd 15483, 15490, para. 20 (WTB 2014) (providing further guidance on the commercially reasonable terms and conditions standard).

⁴⁴ CCA Comments at 6; NTCA—The Rural Broadband Association, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 4 (rec. Dec. 16, 2021) (NTCA Comments).

⁴⁵ ACA Connects Comments, PS Docket Nos. 21-346 and 15-80, ET Docket No. 04-35, at 4-5 (rec. Dec. 16, 2021) ; NTCA Comments at 4.

28. Lastly, we considered whether providers should submit reports to the Commission, in real time or in the aftermath of a disaster detailing their implementation of the Framework's provisions and whether the reports should include information on the manner in which the provider adhered to the various provisions of the Framework. We declined to adopt a real-time submission reporting requirement, and instead required that providers submit a report detailing the timing, duration and effectiveness of their implementation of the MDRI's provisions within 60 days of when the Bureau, under delegated authority, issues a Public Notice announcing such reports must be filed for providers operating in a given geographic area in the aftermath of a disaster. In light of our decision to examine ways to standardize and streamline the reporting processes for providers in the *Further Notice* included with the *Order*, we did not mandate a timeline for compliance with the reporting requirements, therefore small entities will not be immediately impacted by the requirements.

G. Report to Congress

29. The Commission will send a copy of the *Report and Order and Further Notice of Proposed Rulemaking*, including this FRFA, in a report to Congress pursuant to the Congressional Review Act.⁴⁶ In addition, the Commission will send a copy of the *Report and Order and Further Notice of Proposed Rulemaking*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Report and Order and Further Notice of Proposed Rulemaking* and FRFA (or summaries thereof) will also be published in the *Federal Register*.⁴⁷

⁴⁶ See 5 U.S.C. § 801(a)(1)(A).

⁴⁷ See 5 U.S.C. § 604(b).

APPENDIX C

Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in the *Further Notice of Proposed Rulemaking (Notice)*. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *Notice*. The Commission will send a copy of the *Notice*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).² In addition, the *Notice* and IRFA (or summaries thereof) will be published in the Federal Register.³

A. Need for, and Objectives of, the Proposed Rules

2. The *Notice* included with the *Report and Order (Order)* follows the Commission's adoption of rules codifying the Mandatory Disaster Response Initiative (MDRI), including a mandatory reporting provision establishing a baseline of actions and assurances that facilities-based mobile wireless providers will engage in effective coordination and planning to maintain and restore network connectivity around disasters.

3. The *Notice* further explores the reporting provision from the *Order*, and proposes the development of appropriate content and formatting of reports by which the Commission can assess whether the MDRI is being used by providers to enhance the reliability, resiliency, and continuity of associated disaster-time communications. In the *Notice* we seek comment on:

- Whether to direct the Public Safety and Homeland Security Bureau, under delegated authority, to develop a standardized reporting form for the purposes of a provider's compliance with section 4.17(c) of our rules;
- The content of reports on MDRI compliance;
- The basis pursuant to which facilities-based CMRS providers would be allowed to seek confidential treatment for reports under the Commission's confidentiality rule, or if other protections should apply, and
- An appropriate effective date for any new reporting form(s) that may be developed, including whether the compliance date should depend on the class of provider (e.g., large versus small providers) subject to the requirements.

4. Our proposals and the matters upon which we seek comment are made against the backdrop of Hurricane Ida, which hit the United States as a Category 4 hurricane in August 2021 causing significant flooding and damage in several states along the southern and northeastern corridors of the United States. Hurricane Ida, as well as recent hurricane and wildfire seasons, earthquakes in Puerto Rico, and severe winter storms in Texas demonstrate that America's communications infrastructure remains susceptible to disruption during disasters. These disruptions can prevent the transmission of 911 calls, first responder communications, EAS and WEA messages, and other potentially life-saving information. They also can have cascading detrimental effects on the economy and other critical infrastructures due to interdependencies among sectors, including the transportation, medical, and financial sectors, among others. Importantly, these disruptions may involve any or all communications networks – including wireline, wireless, cable, satellite, or broadcast facilities which requires the

¹ See 5 U.S.C. § 603. The RFA, 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² See 5 U.S.C. § 603(a).

³ See *id.*

Commission takes affirmative and swift action to improve the reliability and resiliency of our nation's communications networks during emergencies.

B. Legal Basis

5. The proposed action is authorized pursuant to sections 1, 4(i), 4(j), 4(o), 201(b), 214(d), 218, 251(e)(3), 301, 303(b), 303(g), 303(j), 303(r), 307, 309(a), 309(j), 316, 332, 403, 615a-1, and 615c of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i)-(j) & (o), 201(b), 214(d), 218, 251(e)(3), 301, 303(b), 303(g), 303(j), 303(r), 307, 309(a), 309(j), 316, 332, 403, 615a-1, and 615c.

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply

6. The RFA directs agencies to provide a description of and, where feasible, and estimate of the number of small entities that may be affected by the proposed rules, if adopted.⁴ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”⁵ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.⁶ A small business concern is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).⁷

7. *Small Businesses, Small Organizations, Small Governmental Jurisdictions.* Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three broad groups of small entities that could be directly affected herein.⁸ First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the SBA's Office of Advocacy, in general a small business is an independent business having fewer than 500 employees.⁹ These types of small businesses represent 99.9% of all businesses in the United States which translates to 32.5 million businesses.¹⁰

8. Next, the type of small entity described as a “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”¹¹ The Internal Revenue Service (IRS) uses a revenue benchmark of \$50,000 or less to delineate its annual electronic filing requirements for small exempt organizations.¹² Nationwide, for tax year 2020, there

⁴ 5 U.S.C. § 603(b)(3).

⁵ 5 U.S.C. § 601(6).

⁶ 5 U.S.C. § 601(3) (incorporating by reference the definition of ““small business concern” in 15 U.S.C. § 632(a)). Pursuant to the RFA, the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

⁷ 15 U.S.C. § 632.

⁸ See 5 U.S.C. § 601(3)-(6).

⁹ See SBA, Office of Advocacy, Frequently Asked Questions, “What is a small business?,” <https://cdn.advocacy.sba.gov/wp-content/uploads/2021/11/03093005/Small-Business-FAQ-2021.pdf>. (Nov. 2021).

¹⁰ *Id.*

¹¹ 5 U.S.C. § 601(4).

¹² The IRS benchmark is similar to the population of less than 50,000 benchmark in 5 U.S.C § 601(5) that is used to define a small governmental jurisdiction. Therefore, the IRS benchmark has been used to estimate the number small organizations in this small entity description. See Annual Electronic Filing Requirement for Small Exempt Organizations — Form 990-N (e-Postcard), “Who must file,” <https://www.irs.gov/charities-non-profits/annual-electronic-filing-requirement-for-small-exempt-organizations-form-990-n-e-postcard>. We note that the IRS data

(continued....)

were approximately 447,689 small exempt organizations in the U.S. reporting revenues of \$50,000 or less according to the registration and tax data for exempt organizations available from the IRS.¹³

9. Finally, the small entity described as a “small governmental jurisdiction” is defined generally as “governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”¹⁴ U.S. Census Bureau data from the 2017 Census of Governments¹⁵ indicate that there were 90,075 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States.¹⁶ Of this number there were 36,931 general purpose governments (county¹⁷, municipal and town or township¹⁸) with populations of less than 50,000 and 12,040 special purpose governments - independent school districts¹⁹ with enrollment populations of less than 50,000.²⁰ Accordingly, based on the 2017 U.S. Census of Governments data, we estimate that at least 48,971 entities fall into the category of “small governmental jurisdictions.”²¹

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does not provide information on whether a small exempt organization is independently owned and operated or dominant in its field.

¹³ See Exempt Organizations Business Master File Extract (EO BMF), “CSV Files by Region,” <https://www.irs.gov/charities-non-profits/exempt-organizations-business-master-file-extract-eo-bmf>. The IRS Exempt Organization Business Master File (EO BMF) Extract provides information on all registered tax-exempt/non-profit organizations. The data utilized for purposes of this description was extracted from the IRS EO BMF data for businesses for the tax year 2020 with revenue less than or equal to \$50,000, for Region 1-Northeast Area (58,577), Region 2-Mid-Atlantic and Great Lakes Areas (175,272), and Region 3-Gulf Coast and Pacific Coast Areas (213,840) which includes the continental U.S., Alaska, and Hawaii. This data does not include information for Puerto Rico.

¹⁴ 5 U.S.C. § 601(5).

¹⁵ See 13 U.S.C. § 161. The Census of Governments survey is conducted every five (5) years compiling data for years ending with “2” and “7”. See also Census of Governments, <https://www.census.gov/programs-surveys/cog/about.html>.

¹⁶ See U.S. Census Bureau, 2017 Census of Governments – Organization Table 2. Local Governments by Type and State: 2017 [CG1700ORG02]. <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. Local governmental jurisdictions are made up of general purpose governments (county, municipal and town or township) and special purpose governments (special districts and independent school districts). See also tbl.2. CG1700ORG02 Table Notes_Local Governments by Type and State_2017.

¹⁷ See *id.* at tbl.5. County Governments by Population-Size Group and State: 2017 [CG1700ORG05]. <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 2,105 county governments with populations less than 50,000. This category does not include subcounty (municipal and township) governments.

¹⁸ See *id.* at tbl.6. Subcounty General-Purpose Governments by Population-Size Group and State: 2017 [CG1700ORG06]. <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 18,729 municipal and 16,097 town and township governments with populations less than 50,000.

¹⁹ See *id.* at tbl.10. Elementary and Secondary School Systems by Enrollment-Size Group and State: 2017 [CG1700ORG10]. <https://www.census.gov/data/tables/2017/econ/gus/2017-governments.html>. There were 12,040 independent school districts with enrollment populations less than 50,000. See also tbl.4. Special-Purpose Local Governments by State Census Years 1942 to 2017 [CG1700ORG04], CG1700ORG04 Table Notes_Special Purpose Local Governments by State_Census Years 1942 to 2017.

²⁰ While the special purpose governments category also includes local special district governments, the 2017 Census of Governments data does not provide data aggregated based on population size for the special purpose governments category. Therefore, only data from independent school districts is included in the special purpose governments category.

²¹ This total is derived from the sum of the number of general purpose governments (county, municipal and town or township) with populations of less than 50,000 (36,931) and the number of special purpose governments -

(continued....)

10. The proposals in the *Notice* apply only to facilities-based mobile wireless providers, which include small entities as well as larger entities. The Commission has not developed a small business size standard directed specifically toward these entities. However, in our discussion in the *Order* we estimate based on internal Commission data that there are approximately 63 small facilities-based mobile wireless providers that are likely to face one-time implementation costs. As described below, these entities fit into larger industry categories that provide these facilities or services for which the SBA has developed small business size standards.

11. *Wireless Telecommunications Carriers (except Satellite)*. This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves.²² Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular services, paging services, wireless internet access, and wireless video services.²³ The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees.²⁴ U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year.²⁵ Of that number, 2,837 firms employed fewer than 250 employees.²⁶ Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 797 providers that reported they were engaged in the provision of wireless services.²⁷ Of these providers, the Commission estimates that 715 providers have 1,500 or fewer employees.²⁸ Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

12. We note that while facilities-based mobile wireless providers fall into this industry description, in assessing whether a business concern qualifies as "small" under the above SBA size standard, business (control) affiliations²⁹ must be included. Another element of the definition of "small business" requires that an entity not be dominant in its field of operation. An additional element of the definition of "small business" is that the entity must be independently owned and operated. The Commission notes that it is difficult at times to assess these criteria and its estimates of small businesses to which they apply may be over-inclusive to this extent. We are unable at this time to define or quantify the criteria that would establish whether a specific facilities-based mobile wireless provider impacted by the *Order* is dominant in its field of operation. Accordingly, the estimate of small businesses to which rules may apply for this industry description is therefore possibly over-inclusive and likely overstates the

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independent school districts with enrollment populations of less than 50,000 (12,040), from the 2017 Census of Governments - Organizations tbls.5, 6, 10.

²² See U.S. Census Bureau, *2017 NAICS Definition*, "517312 Wireless Telecommunications Carriers (except Satellite)," <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

²³ *Id.*

²⁴ See 13 CFR § 121.201, NAICS Code 517312.

²⁵ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFIEM, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFIEM&hidePreview=false>.

²⁶ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

²⁷ Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2021), <https://docs.fcc.gov/pubId.lic/attachments/DOC-379181A1.pdf>.

²⁸ *Id.*

²⁹ "[Business concerns] are affiliates of each other when one concern controls or has the power to control the other or a third party or parties controls or has the power to control both." 13 CFR § 21.103(a)(1).

number of small entities that might be affected by our action.

13. *Wireless Communications Services.* Wireless Communications Services (WCS) can be used for a variety of fixed, mobile, radiolocation, and digital audio broadcasting satellite services. Wireless spectrum is made available and licensed for the provision of wireless communications services in several frequency bands subject to Part 27 of the Commission's rules.³⁰ Wireless Telecommunications Carriers (*except* Satellite)³¹ is the closest industry with a SBA small business size standard applicable to these services. The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.³² U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year.³³ Of this number, 2,837 firms employed fewer than 250 employees.³⁴ Thus under the SBA size standard, the Commission estimates that a majority of licensees in this industry can be considered small.

14. The Commission's small business size standards with respect to WCS involve eligibility for bidding credits and installment payments in the auction of licenses for the various frequency bands included in WCS. When bidding credits are adopted for the auction of licenses in WCS frequency bands, such credits may be available to several types of small businesses based average gross revenues (small, very small and entrepreneur) pursuant to the competitive bidding rules adopted in conjunction with the requirements for the auction and/or as identified in the designated entities section in Part 27 of the Commission's rules for the specific WCS frequency bands.³⁵

15. In frequency bands where licenses were subject to auction, the Commission notes that as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service. Further, the Commission does not generally track subsequent business size unless, in the context of assignments or transfers, unjust enrichment issues are implicated. Additionally, since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard.

16. *Wireless Carriers and Service Providers.* Wireless Telecommunications Carriers (*except* Satellite) is the closest industry with a SBA small business size standard applicable to these service providers.³⁶ The SBA small business size standard for this industry classifies a business as small if it has 1,500 or fewer employees.³⁷ U.S. Census Bureau data for 2017 show that there were 2,893 firms that

³⁰ See 47 CFR §§ 27.1 – 27.1607.

³¹ See U.S. Census Bureau, *2017 NAICS Definition*, “517312 Wireless Telecommunications Carriers (*except* Satellite),” <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

³² See 13 CFR § 121.201, NAICS Code 517312.

³³ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPFI, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPFI&hidePreview=false>.

³⁴ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

³⁵ See 47 CFR §§ 27.201 – 27.1601. The Designated entities sections in Subparts D – Q each contain the small business size standards adopted for the auction of the frequency band covered by that subpart.

³⁶ See U.S. Census Bureau, *2017 NAICS Definition*, “517312 Wireless Telecommunications Carriers (*except* Satellite),” <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

³⁷ See 13 CFR § 121.201, NAICS Code 517312.

operated in this industry for the entire year.³⁸ Of this number, 2,837 firms employed fewer than 250 employees.³⁹ Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 797 providers that reported they were engaged in the provision of wireless services.⁴⁰ Of these providers, the Commission estimates that 715 providers have 1,500 or fewer employees.⁴¹ Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

17. We note that while facilities-based mobile wireless providers fall into this industry description, in assessing whether a business concern qualifies as "small" under the above SBA size standard, business (control) affiliations⁴² must be included. Another element of the definition of "small business" requires that an entity not be dominant in its field of operation. An additional element of the definition of "small business" is that the entity must be independently owned and operated. The Commission notes that it is difficult at times to assess these criteria and its estimates of small businesses to which they apply may be over-inclusive to this extent. We are unable at this time to define or quantify the criteria that would establish whether a specific facilities-based mobile wireless provider impacted by the *Order* is dominant in its field of operation. Accordingly, the estimate of small businesses to which rules may apply for this industry description is therefore possibly over-inclusive and likely overstates the number of small entities that might be affected by our proposed action.

18. In addition to the small entity industry descriptions above, included in this section are small entities providing broadband only services that are not otherwise enumerated elsewhere in this IRFA.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

19. We expect the potential rules addressed in the *Notice* will impose new or additional reporting, recordkeeping and/or other compliance obligations on facilities-based CMRS providers, who would potentially be required to keep records related to bilateral roaming agreements with other providers, submit reports to the Commission summarizing the utilization and effectiveness of roaming measures during times of disasters, and submit documents detailing the regular testing of their roaming capabilities. In the *Notice* we raise various matters relating to the reporting requirement obligations we should adopt, including whether to implement a standardized, streamlined reporting format, what information should be included in reports, should the information reported be treated as confidential, and when and how often should reports be filed with the Commission. We also ask whether any other provisions of the Framework should be included in reporting requirement obligations for facilities-based CMRS providers.

20. The *Notice* seeks comment on a number of aspects relating to our proposals and matters we discuss, including the benefits and costs associated with a provider's implementation of them. We

³⁸ See U.S. Census Bureau, *2017 Economic Census of the United States, Employment Size of Firms for the U.S.: 2017*, Table ID: EC1700SIZEEMPfirm, NAICS Code 517312, <https://data.census.gov/cedsci/table?y=2017&n=517312&tid=ECNSIZE2017.EC1700SIZEEMPfirm&hidePreview=false>.

³⁹ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

⁴⁰ Federal-State Joint Board on Universal Service, Universal Service Monitoring Report at 26, Table 1.12 (2021), <https://docs.fcc.gov/pubId.lic/attachments/DOC-379181A1.pdf>.

⁴¹ *Id.*

⁴² "[Business concerns] are affiliates of each other when one concern controls or has the power to control the other or a third party or parties controls or has the power to control both." 13 CFR § 21.103(a)(1).

seek comment on and have requested cost and benefit information from commenters pertaining to our proposals, inquiries and conclusions in the *Notice*. We expect the comments we receive in response to the *Notice* to include information addressing costs, benefits, and other matters of concern which should help the Commission further identify and evaluate relevant issues for small entities, including compliance costs before adopting final rules.

E. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

21. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include (among others) the following four alternatives: (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for such small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.⁴³

22. The Commission has taken specific steps to address some of the costs for facilities-based mobile wireless providers subject to the potential rules discussed in the *Notice*. We seek to give facilities-based mobile wireless providers maximum flexibility and reduce potential costs of compliance, and believe the best approach is to solicit input from facilities-based mobile wireless providers on the issues raised in the *Notice*. We further believe that burdens on small and other providers would be diminished, and the value of the information collected increased, if providers were required to submit their reports in a standardized and streamlined format.

23. We have proposed and seek comment (including any associated costs and benefits), on requiring the Public Safety and Homeland Security Bureau, under delegated authority, to develop a standardized reporting form for the purposes of a provider's compliance with section 4.17(c) of our rules.

24. The Commission is mindful that small and other providers subject to any new rules adopted in this proceeding may incur compliance costs. To assist in the Commission's evaluation of the economic impact on small entities, the Commission seeks comment on the costs and benefits of various proposals and alternatives in the *Notice*. Having data on the costs and economic impact of proposals and approaches will allow the Commission to better evaluate options and alternatives for minimization should there be a significant economic impact on small entities as a result of our proposals. We expect to more fully consider the economic impact on small entities following our review of comments filed in response to the *Notice*, including costs and benefits analyses, and this IFRA. The Commission's evaluation of this information will shape the final alternatives it considers to minimize any significant economic impact that may occur on small entities, the final conclusions it reaches and any final rules it promulgates in this proceeding.

F. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

25. None

⁴³ 5 U.S.C. § 603(c)(1)-(4).

APPENDIX D**List of Commenting Parties****Comments**

ACA Connects
Alliance for Telecommunications Industry Solutions (ATIS)
American Tower Corporation
APCO International
AT&T Services, Inc.
Boulder Regional Emergency Telephone Service Authority (BRETSA)
Bryan C. Hoffman
California Public Utilities Commission
Colorado Broadcasters Association and Puerto Rico Broadcasters Association
Communications Workers of America (CWA)
Competitive Carriers Association (CCA)
The Cellular Telecommunications and Internet Association (CTIA)
DIRECTV, LLC
Entergy
Erik Westgard
Federal Emergency Management Agency (FEMA)
Gary E. Timm
Harris County Office of Homeland Security and Emergency Management
Iridium Communications, Inc.
Livingston Parish Sheriff's Office
Louisiana Association of Broadcasters
National Association of Broadcasters (NAB)
National Public Radio, Inc. (NPR)
National Urban League
Next Century Cities
NTCA—The Rural Broadband Association
Oku Solutions, LLC
Public Knowledge
REC Networks
SES Americom, Inc. And O3b Limited
State Broadcasters Associations
Tekniam, LLC
Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI)
The Edison Electric Institute
T-Mobile USA, Inc.
United States Chamber of Commerce
USTelecom—The Broadband Association
Utilities Technology Council (UTC)
Verizon
Western Fire Chiefs Association
Wireless Infrastructure Association (WIA)
Zuma Beach FM Emergency and Community Broadcasters Inc.

Replies

ACA Connects
Alliance for Telecommunications Industry Solutions (ATIS)

Boulder Regional Emergency Telephone Service Authority (BRETSA)
California Public Utilities Commission
The Cellular Telecommunications and Internet Association (CTIA)
Free Press
Georgia Tech Center for Advanced Communications Policy
Michigan Public Service Commission
NCTA—The Internet and Television Association
NTCA—The Rural Broadband Association
Public Knowledge
SES Americom, Inc. And O3b Limited
Sirius XM Radio, Inc.
The Edison Electric Institute
The National Association of State Utility Consumer Advocates (NASUCA)
T-Mobile USA, Inc.
USTelecom—The Broadband Association
Verizon

Ex Partes

Edison Electric Institute (EEI)
Entergy
The Cellular Telecommunications and Internet Association (CTIA)
Multicultural Media, Telecom and Internet Council (MMTC)
NCTA—The Internet and Television Association
Public Knowledge
Satellite Industry Association (SIA)
Utilities Technology Council (UTC)

**STATEMENT OF
CHAIRWOMAN JESSICA ROSENWORCEL**

Re: *Resilient Networks*, PS Docket No. 21-346; *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80; *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, ET Docket No. 04-35 (June 27, 2022)

Last Fall, I had the opportunity to see firsthand the devastation wrought by Hurricane Ida. I went to Louisiana with Commissioner Carr and we traveled from Baton Rouge to New Orleans to survey the damage to communications and speak to people in the communities affected by the storm. We drove on long, flat roads by mangled store signs and piles of refuse waiting to be cleared away. But what stays with me most were the stories. Everyone we met wanted us to know what happened and know that they love where they live. They were deeply committed to the restoration of the communities. They were also invested in making sure that when the next storm comes they are better prepared.

We share that conviction at the Federal Communications Commission. This effort is a reflection of that. It is also a testament to what we learned on that trip—from public safety leaders in Baton Rouge, 911 call center operators in Livingston, broadband companies in LaPlace, and FirstNet officials in Raceland.

Today's action takes several important first steps to improve the resiliency of our wireless networks. First, it expands the times and places where carriers will be able to roam on each other's networks during an emergency, improving the likelihood that people will be able to stay connected when the unthinkable happens. Second, it takes what has to this point has been a voluntary Wireless Network Resiliency Cooperative Framework, which promotes service continuity through coordination, assistance, and information sharing during and after emergencies and disasters, and makes it mandatory for all mobile network operators. We've seen that the mutual aid and other provisions of this Framework can be effective at speeding recovery and ensuring responders have all the information they need, and it's time that these practices be implemented on an industry-wide basis. Third, it changes the circumstances that can trigger the initiation of the Framework, meaning that the Framework's activation will be more predictable, consistent, and responsive to needs on the ground.

Taken together, these changes will help restore service faster, help speed response coordination, and keep more people connected in disaster. But we can't stop here. In the rulemaking we adopted last year, we looked at several other ways our disaster response playbook could be updated. We considered if the Framework could usefully be expanded. We sought comment on where there are gaps that need to be filled in in our Disaster Information Reporting System. We also renewed our inquiry into back up power for communications facilities as well as the essential intersection between modern communications and the electrical grid. We will continue to assess the record and work on these issues.

We need to because network resiliency is so essential. Last Fall it was a hurricane in the Gulf, but we have also seen flooding in the Southwest, and wildfires out West. One thing we know for sure is that Mother Nature's wrath will visit us again and again. So we will have to continue to update our policies regarding network resiliency so that communications are available when we need them most.

Thank you to my colleagues for their partnership on this effort and their willingness to continue to engage on these matters.

**STATEMENT OF
COMMISSIONER BRENDAN CARR**

Re: *Resilient Networks*, PS Docket No. 21-346; *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80; *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, ET Docket No. 04-35 (June 27, 2022)

Last September, I had the honor of joining Chairwoman Rosenworcel in Louisiana in the aftermath of Hurricane Ida. During our trip, we heard directly from first responders, public safety officials, and service providers. They talked with us about what went right, as well as what didn't, from a network preparation and response standpoint. Key themes emerged as we listened to leaders on the ground. Not surprisingly, many of those themes and recommendations were consistent with what I heard in Florida following Hurricane Michael, as well as during other disaster-related field visits with first responders. Perhaps most importantly, it became clear that we needed a more seamless process to enable roaming during disasters.

America's wireless providers have led the world in building robust, reliable communications networks. In the decade since Superstorm Sandy, the wireless industry's billions of dollars in investments have helped customers stay in touch and reach out for help during disasters. On top of that, the industry-led voluntary framework that was created in 2016 has served as a model for closer coordination and the establishment of a set of best-practices. This has without a doubt promoted public safety and improved lives.

But with the passage of time and experience gained under this voluntary framework, it is clear to me that the FCC should build and expand upon that success. That is why I announced my support last month for rules that would require mobile providers to participate in the wireless resiliency framework and mandate roaming during disaster arrangements. And I am grateful to Chairwoman Rosenworcel for bringing forward this Order, which tracks that approach.

Replacing the voluntary framework with new rules, as we do today, will provide consumers with strong, enforceable protections that will help ensure that even more Americans can reach public safety officials, loved ones, or others who can help during disaster scenarios where seconds can make all the difference. Importantly, our approach strikes the right balance between promoting industry's incentive to invest in their networks and continuing to implement lessons learned from each disaster. And the clear rules we adopt today ensure that carriers have the flexibility necessary to manage fast-moving and diverse disaster scenarios. By leveraging the beneficial parts of the voluntary framework and adding a new roaming during disaster obligation, providers can keep their focus on the time-sensitive work of maintaining and restoring their networks.

I am grateful for the broad and diverse support from public safety and first responder groups that our approach has earned. As their statements attest, these rules will help strengthen our wireless networks and improve access to vital communications services during disasters. And I believe that we should focus going forward on ways that we can encourage other industry segments to meet the bar set by the mobile wireless segment.

I want to extend a special thanks to Chairwoman Rosenworcel for working with me to develop the framework we adopt today. I applaud her leadership and commitment to advancing the interests of consumers and public safety entities, especially during disasters. The FCC's hardworking staff, as always, also deserves credit here for preparing an item for consideration at the start of this year's hurricane season. I am also thankful that my colleagues acted quickly to strengthen our rules as we enter another hurricane season and communities are in the midst of responding to wildfires and other disasters.

**STATEMENT OF
COMMISSIONER GEOFFREY STARKS**

Re: *Resilient Networks*, PS Docket No. 21-346; *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80; *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, ET Docket No. 04-35 (June 27, 2022)

Today's action will help Americans access wireless service in the wake of natural disasters and other emergencies—and it has my full support.

The Report and Order makes participation in the Wireless Resiliency Framework mandatory for all facilities-based providers, strengthening accountability and bringing more networks into the resiliency fold. It improves emergency roaming in much the same way—and by requiring carriers to negotiate and test their arrangements *before* disaster strikes. It also makes the Framework easier to activate, paving the way for better service during more emergencies, including wildfires and blackouts. The after-action reports we require today are also critically important. They'll help us develop the facts we need to monitor and learn from the Framework's implementation, and to improve our situational awareness during disasters.

The rules we adopt today are also a critical part of our efforts to respond to the climate crisis. We continue to experience more frequent and more frequently severe disruptions to our connectivity. Robust, resilient networks that can withstand or quickly respond to severe weather events are essential.

We also cannot ignore how these disasters disproportionately impact the low-income.¹ As Hurricane Ida demonstrated, natural disasters can devastate low-income communities whether they are coastal or inland.² We also know that the devastation can persist long after emergency personnel have accomplished their missions³ and that low-income communities often struggle to secure the funding they need to mitigate damage from future disasters.⁴ Other agencies are also working hard to mitigate these inequities, and I sincerely believe the FCC's work on resiliency is an important advancement. As I've said before, we will not have equal access to communications if we do not have resilient communications networks—and today's action takes an important step towards bridging the gap.

¹ Press Release, United States Environmental Protection Agency, EPA Report Shows Disproportionate Impacts of Climate Change on Socially Vulnerable Populations in the United States (Sept. 2, 2021), <https://www.epa.gov/newsreleases/epa-report-shows-disproportionate-impacts-climate-change-socially-vulnerable> (EPA Report); Anthony Leiserowitz & Karen Akerlof, *Yale Project on Climate Change, Race, Ethnicity and Public Responses to Climate Change* (2010), https://climatecommunication.yale.edu/wp-content/uploads/2016/02/2010_04_Race-Ethnicity-and-Public-Responses-to-Climate-Change.pdf.

² Adam Piore, *Cities Brace for Apocalyptic Flooding As New Age of Super Storms Dawns*, Newsweek Magazine (May 11, 2022), <https://www.newsweek.com/2022/05/27/cities-brace-apocalyptic-flooding-new-age-super-storms-dawns-1705402.html>.

³ See, e.g., Robert Benincasa & Rebecca Hersher, *How Federal Disaster Money Favors the Rich* (Mar. 5, 2019), <https://www.npr.org/2019/03/05/688786177/how-federal-disaster-money-favors-the-rich>; Kriston Capps, *Texas Renters are Still Waiting for Recovery Relief from Hurricane Harvey*, Bloomberg.com (Aug. 31, 2020), <https://www.bloomberg.com/news/articles/2020-08-31/hurricane-relief-still-has-a-racial-equity-problem>.

⁴ See Tracy Jan, *Black Communities Are Last in Line for Disaster Planning in Texas*, Washington Post (May 12, 2022), <https://www.washingtonpost.com/business/interactive/2022/hud-texas-disaster-discrimination/>; Thomas Frank, *Floods, Then Bias: Inside an Unfair FEMA Climate Program*, Politico (May 27, 2022), <https://www.politico.com/news/2022/05/27/unfair-fema-climate-program-floods-00032080>.

I also wanted to thank Commissioner Carr for his thoughtful leadership on this item, and Chairwoman Rosenworcel for the same. Job well done.